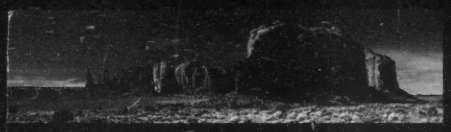

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Henry Malmgren, IT manager at the South Pole, ch-ch-chats about running the coldest, darkest, most isolated IT operation on earth. PAGE 20

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DECEMBER 17, 2007
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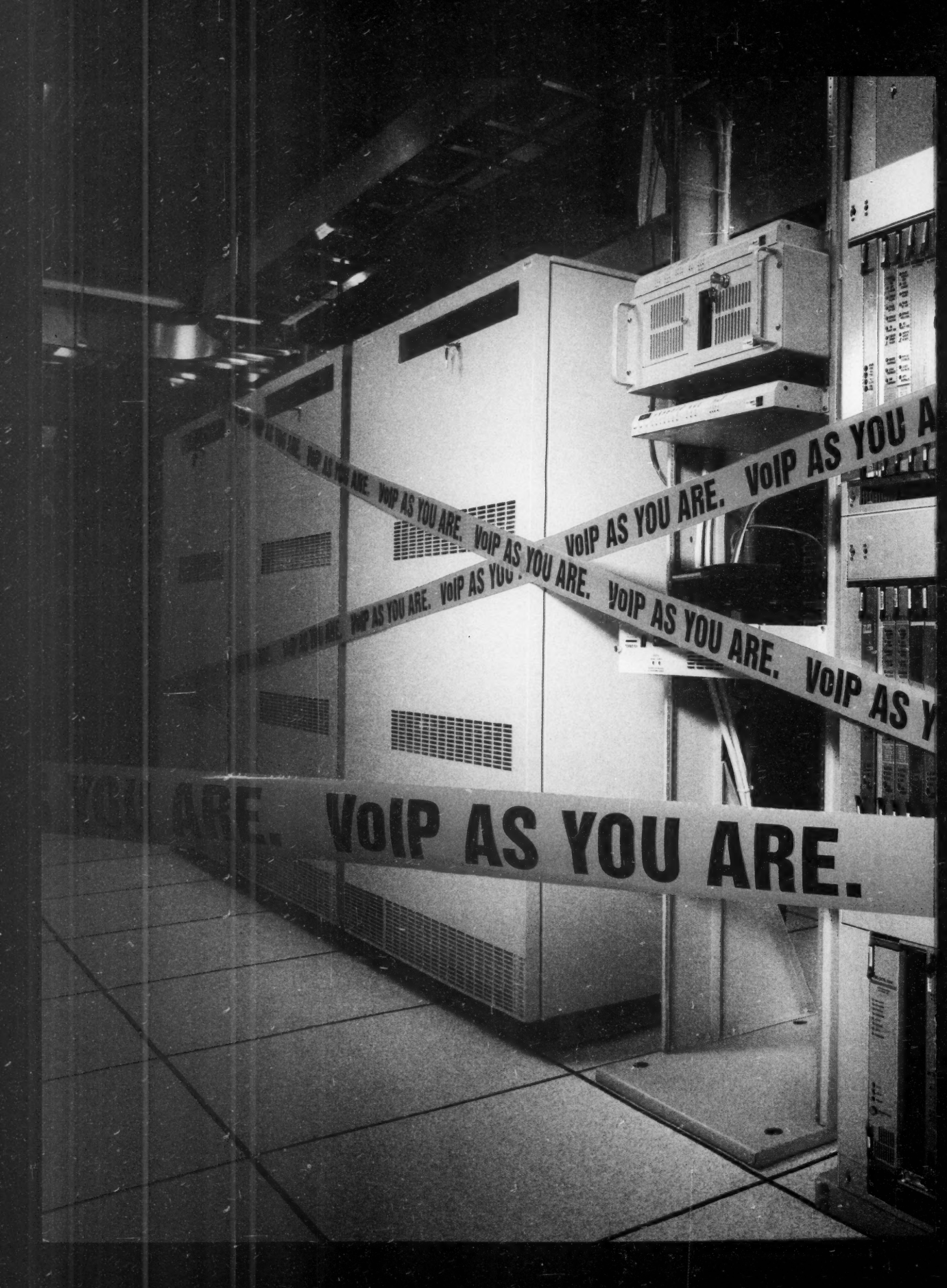
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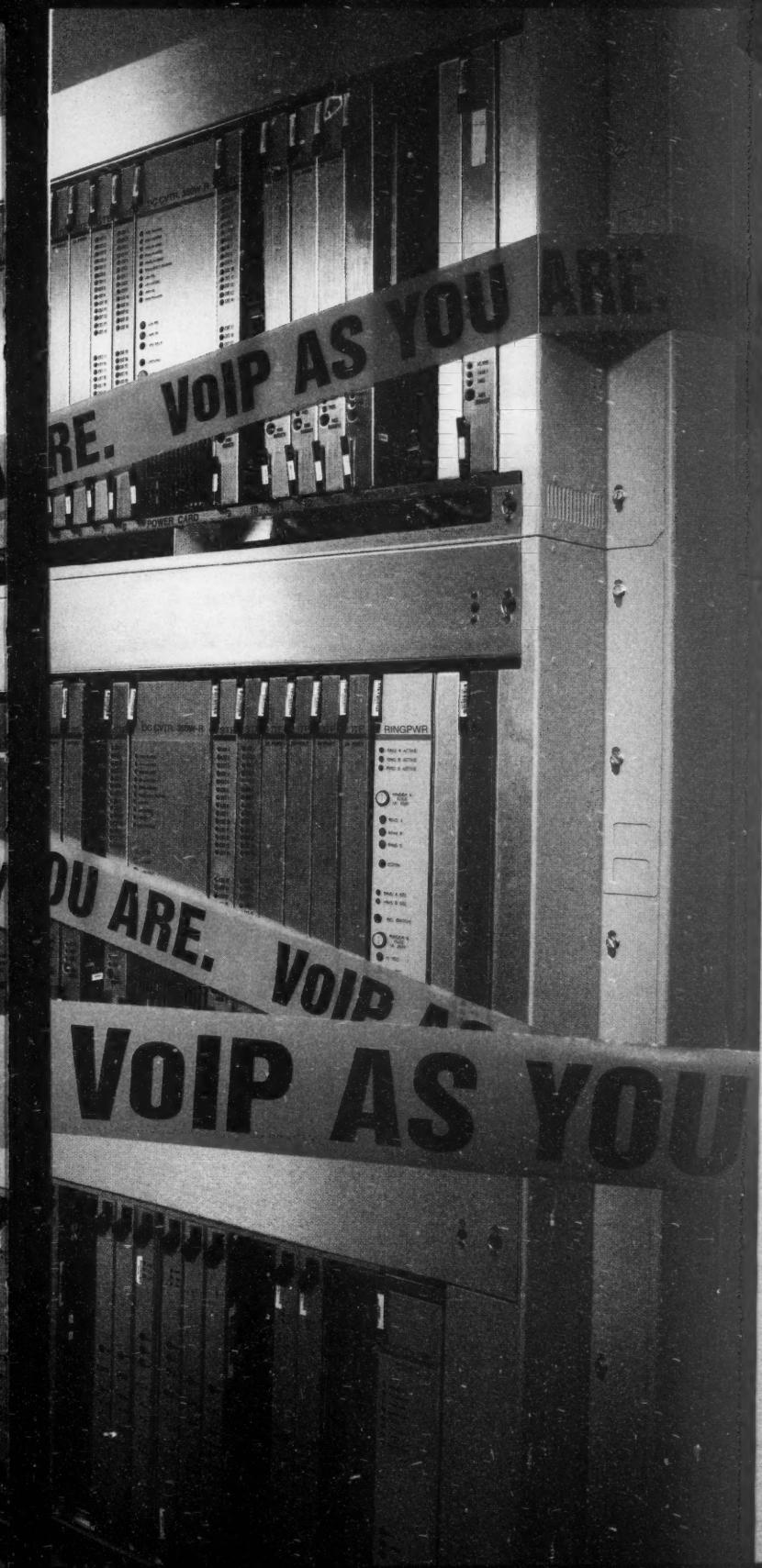

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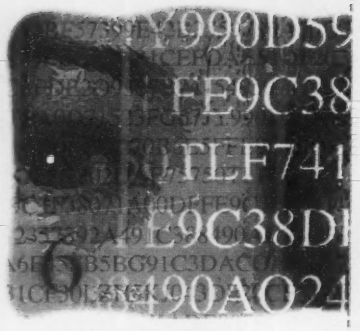

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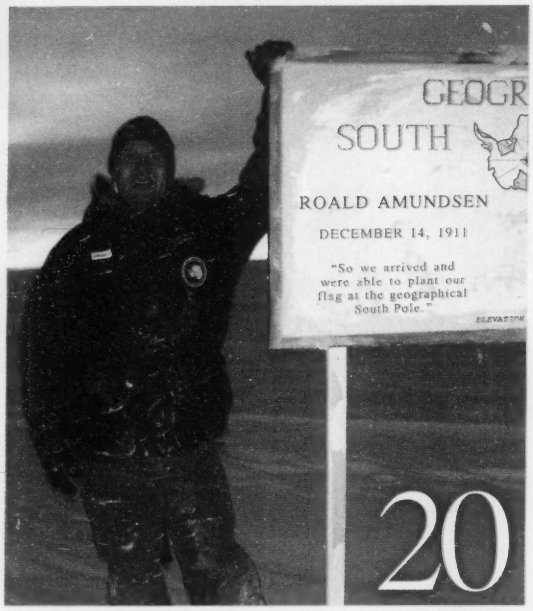

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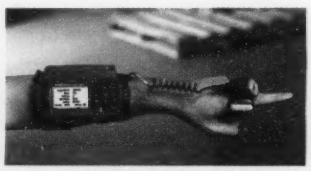

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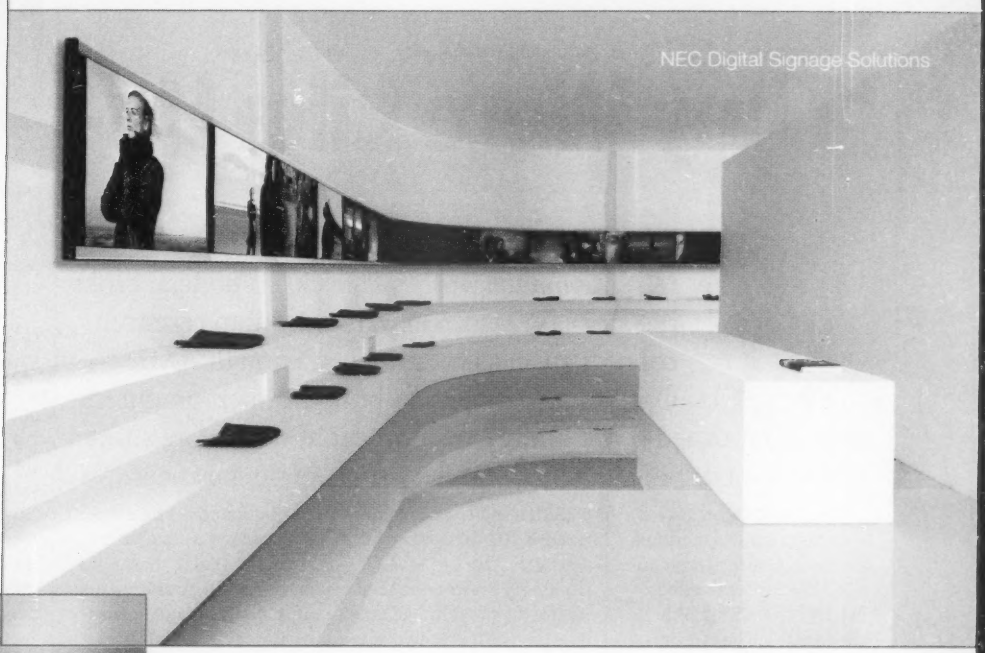

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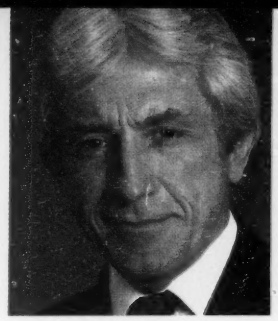
■ EDITOR'S NOTE

Don Tennant

'They Were Like Us'



WHEN *Computerworld*'s Patrick Thibodeau broke the story on Dec. 6 about an Iranian research center's success in acquiring enough AMD Opteron processors to build a supercomputer (see story, page 14), we knew that a spotlight was being shined where a lot of people would prefer that there be darkness.

That the federal antiterrorism trade sanctions imposed against Iran can easily be circumvented is hardly shocking. But the fact that the circumvention has yielded a supercomputer with 216 Opteron processing cores is extraordinary, and it has brought some unwanted attention to AMD's sales channel and to the United Arab Emirates as a source of illicit shipments to Iran.

I learned about Iran's interest in the Opteron more than two years ago, when a column I wrote in May 2005 about the momentum building around the AMD processor was translated into Farsi and published in *PC World Iran*, an IDG sister publication. The editors at *PC World Iran* must have had reason to believe that information on the Opteron was in demand.

Where there is demand, there is resourcefulness, so it was to be expected that the Opteron would find its way into Iran by one means or another. In this case, Thibodeau's investigation uncovered a trail that led to an authorized AMD distributor in the UAE state of Dubai. *Computerworld* enhanced photos from an image gallery on the Web site of the research center at Tehran's Amirkabir University of Technology, which built the supercomputer. The photos indicated that the research center was working with technology it had received from Dubai-based distributor Thacker FZE.

It's clear that Thibodeau's article got the attention of the Iranians. The photo gallery was subsequently removed from the research center's Web site.

The story was probably equally unwelcome to AMD, which can expect to face some tough questions about how some of its best technology fell into Iranian hands. The company issued a statement stressing that it "has never authorized any shipments of AMD products to Iran or any other embargoed country, either directly or indirectly." Still, federal authorities are likely to look more closely into AMD's dealings in the UAE, which include a recent $622 million investment in the company by a firm in the UAE capital of Abu Dhabi.

■ AMD can expect to face some tough questions about how some of its best technology fell into Iranian hands.

AMD's shareholders are likely to want some answers as well.

"As someone who has been acquiring AMD stock this year, I have been watching the UAE connection very closely," one reader wrote in response to my blog item on the subject. "The acquisition of Opteron processors, and their use in constructing a supercomputer by Iran, gives me pause regarding my ownership in this company. . . . Maybe I'll start tracking Intel instead."

While the questions need to be asked and answered, we can't allow ourselves to lose sight of a point that was articulated especially well last week by a reader who e-mails me occasionally. The reader recounted a conversation he'd had with an acquaintance, a division president in a large U.S. aerospace company.

"He was telling me about a deal he tried to cut in the Soviet Union in the '70s — yeah, a deal to sell airplane parts to the Russians in the middle of the Cold War," the reader wrote. "We were talking about how the Russian aerospace guys really wanted to work with [the U.S. aerospace company]: 'They were like us. Above all, they were here to build and fly. Being good communists came in second place.' "

The vast majority of Iranian technology guys are like us, too. If our government engaged in activity that resulted in trade sanctions being imposed against us, we'd work as hard as they do to overcome those obstacles. There are good people in Iran who are trying to use technology to improve people's lives, and they're doing it under extremely difficult circumstances. Forgetting that will only perpetuate the darkness. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.

View of EMC Seemed To Be Free of Facts

The view that Don Tennant provides of EMC in his Nov. 19 Editor's Note ["One View of EMC"] is one that has been deliberately constructed by talented marketing professionals. As such, it is nothing more than hearsay.

Because Tennant knows a few people at EMC and also discovered that EMC has established an educational program that ultimately benefits EMC, we are supposed to believe that EMC maintains a commitment to women in the workforce. I do not see the connection. Simply stated, the anticipated return (college graduates who perceive EMC as an industry leader) clearly offsets at least some of the "goodwill" on the part of EMC for undertaking such a purely nonaltruistic endeavor.

Tennant should use the space in his editorial to research and analyze the very serious allegations at EMC concerning the civil rights of its female employees.

Since it is his editorial, he is obviously permitted to give us his conclusions, so long as he provides us with some facts.

■ **William L. Corcoran,** *MIS director, Upper Darby, Pa., william@classix.com*

Analytics Can Let Great Ideas Slip Away

The article on using text analytics ["Travelocity.com Dives Into Text Analytics to Boost Customer Service," *Computerworld.com*, Nov. 14] blithely ignored a serious failing when it focused on trends and "big picture" issues: the highly innovative and unique suggestion made (for free) by a customer. If you're Amazon or Travelocity, and someone comes along with a fantastic idea and writes up how it might transform the business, what are the chances that mass processing of text will see that nugget as important? Sure, if a quarter of the customers complain about Web site performance, text analytics are extremely helpful. But they don't let you gather ideas that can make a significant difference.

■ **Sean A. Dunn,** *McLean, Va.*

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The 5 Users You Meet in Hell (And One You'll Find in Heaven)

The care and feeding of end users is a delicate business. Here are some tips for keeping everyone happy in their cages, er, cubicles.
computerworld.com/itmanagement

Marks of Distinction

Ten financial differentiators to look for in an outsourcing transaction.
computerworld.com/itmanagement

The Tao of Managing Virtualized Servers

Sure, there are similarities to managing physical servers. But if you want all of the savings and other benefits, the virtualization layer has to be managed independently of either the application or the physical server.
computerworld.com/servers

Mind the GAPP: Accountants Try Their Hand at Privacy

Columnist Jay Cline says gearing up for audits under the new Generally Accepted Privacy Principles could be the biggest drill since the passage of the Sarbanes-Oxley Act.
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Mac Gift Guide: 10 Picks For Your Favorite Apple Fan

It can be tough to shop for the Mac lover on your list. From the fanciful to the extremely practical, here are 10 great gift ideas.
computerworld.com/mac

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News Digest

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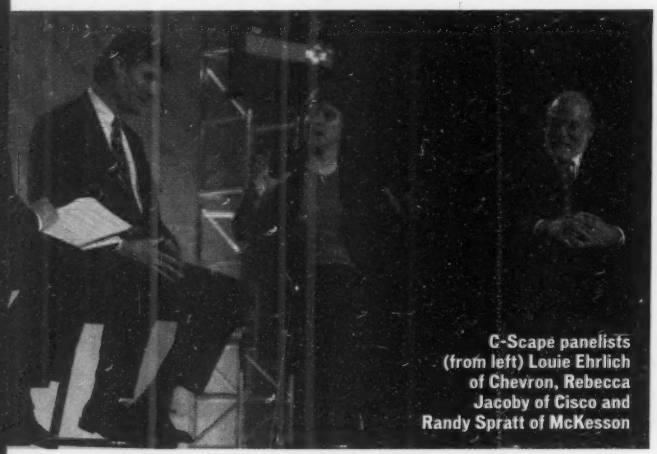
THE WEEK AHEAD

MONDAY: BakBone Software, a data backup and recovery vendor that is restating its financial results back to 2004, plans to hold a webcast to provide a business update.

TUESDAY: HiPC 2007, a high-performance computing conference, starts in Goa, India. The conference's steering committee includes users and vendors from India and the U.S.

WEDNESDAY: Oracle is scheduled to report the financial results for its second quarter, which ended Nov. 30.



C-Scape panelists (from left) Louie Ehrlich of Chevron, Rebecca Jacoby of Cisco and Randy Spratt of McKesson

MANAGEMENT

CIOs Share IT Worries Over Emerging Tech

SAN JOSE

THE SPREAD of Web 2.0 and new mobile technologies throughout the workplace is forcing IT executives to quickly examine how best to maintain control of such systems.

CIOs participating in a panel at Cisco Systems Inc.'s C-Scape analyst conference here last week discussed the challenges of managing social networks and other collaborative technologies.

Randy Spratt, CIO at McKesson Corp., a San Francisco-based medical services company, said trying to control the new technologies is like piloting a sailboat. "You never know where the wind's coming from and how hard it is, but you have to ride with it and keep sailing," he said.

McKesson has successfully implemented four Cisco TelePresence videoconferencing systems, and they have been "phenomenally successful" in helping to cut travel costs, Spratt added.

However, he also said that employees often hear from small vendors trying to sell a few licenses for Web 2.0 products to workgroups. Describing those vendors as "annoying ankle-biters," Spratt said, "They create a lot of headaches for me [but] are often at the cutting edge of new technologies."

The biggest IT concern, Spratt noted, is the possibility that using social networks could lead to legal trouble. "There could be loss of intellectual property, or inappropriate comments could be discovered," he said.

Rebecca Jacoby, Cisco's CIO, acknowledged that she has "abandoned any idea that you could possibly control" the new technologies, so she aims to teach employees how to use them properly in a corporate environment.

About 50,000 Cisco employees use wikis, which has challenged IT to create a proper infrastructure and make sure that the tools fit into the company's business processes, she added.

San Ramon, Calif.-based Chevron Corp. is implementing Microsoft Corp.'s SharePoint collaboration software carefully, to ensure that it can maintain control of how it is used, said Louie Ehrlich, CIO for the company's global downstream operations.

"We're playing with things and being cautious," Ehrlich said. "We don't have a clear strategy." A key challenge, he added, is making sure the cost of managing the collaboration products doesn't stretch Chevron's IT budget.

— Matt Hamblen

SECURITY

Ohio Breach Prompts Public Data Encryption

STILL REELING from the theft of a backup tape that held personal data on thousands of state workers and residents, Ohio officials last week announced plans to distribute encryption software to most public agencies and schools.

NEWSCOM

The state is buying 60,000 licenses for McAfee Inc.'s SafeBoot encryption software for an undisclosed sum and will begin rolling it out to schools, colleges and government offices early next year, the Ohio Department of Administrative Services said.

The purchase was recommended by an IT task force that was formed after an unencrypted backup tape containing personal data on 64,467 state employees, 19,388 former employees and 47,245 Ohio taxpayers was stolen from an intern's car in June, the agency said.

– BRIAN FONSECA

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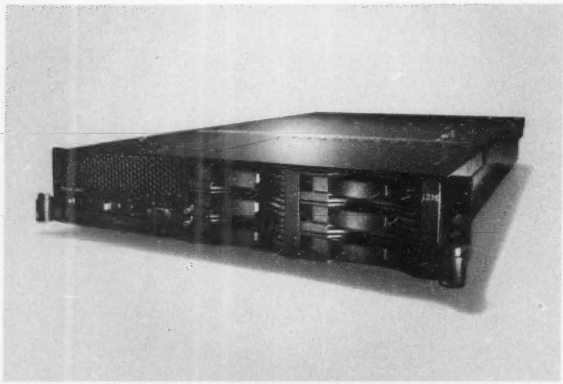

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OPERATING SYSTEMS

NYSE Places Buy on Linux, Hold on Unix

THE New York Stock Exchange is investing heavily in x86-based Linux servers as it continues to build out the hardware architecture for its NYSE Hybrid Market trading system, which it launched last year.

Lowering IT costs is one of the goals of the Linux push, said Steve Rubinow, CIO at NYSE Euronext, the holding company created by the merger of NYSE Group Inc. and Euronext NV. But increased flexibility and technology independence are also priorities. "What we want is to be able to take advantage of technology advances when they happen," Rubinow said.

The Hybrid Market system lets traders buy and sell stocks electronically or on the NYSE's trading floor. To help power the trading system, the exchange has installed about 200 of Hewlett-Packard Co.'s four-processor ProLiant servers, plus 400 HP server blades. All of the DL585 servers run Linux and are based on dual-core Opteron processors from Advanced Micro Devices Inc.

"We're trying to be as independent of any technologies as we can be."

STEVE RUBINOW, CIO, NYSE EURONEXT

In addition, the NYSE is using HP's Integrity NonStop servers, which are based on Intel Itanium processors and run the fault-tolerant NonStop OS.

The NYSE's shift toward Linux and x86-based hardware illustrates why consulting firm Gartner Inc. is predicting a slight decline in Unix server revenues over the next five years, compared with strong sales growth for both Windows and Linux servers.

Rubinow chose not to use HP-UX, HP's version of Unix. "We don't want to be closely aligned with proprietary Unix," he said. "No offense to HP-UX, but we feel the same way about [IBM's] AIX and, to some extent, about Solaris."

The NYSE still uses numerous Unix systems, many running Solaris, Sun Microsystems Inc.'s Unix derivative. Rubinow acknowledged that Solaris works on multiple hardware platforms, including x86-based systems. But he added that Linux "affords us a lot of flexibility."

One technology that the NYSE isn't adopting so eagerly is server virtualization. In a system that processes hundreds of transactions per second, virtualization produces "a noticeable overhead," Rubinow said.

Charles King, an analyst at Pund-IT Inc. in Hayward, Calif., said system latency is "one of the reasons why even the staunchest advocates of x86 virtualization recommend extensive testing" of virtual servers.

— Patrick Thibodeau

Short Takes

SAP AG last week agreed to begin supporting its enterprise software, including its family of ERP applications, on VMware Inc.'s virtual servers. Parag Patel, vice president of alliances, said the company is working on a similar support pact with Oracle Corp.

Microsoft Corp. last week released its monthly set of security patches, fixing critical flaws in Internet Explorer, DirectX and the Windows Media Format technology. The IE patch fixes four bugs, including one that has been exploited in attacks.

Typhoon Touch Technologies Inc. has filed a patent infringement lawsuit against PC maker Dell Inc. and tablet computer developer Motion Computing Inc.

IBM last week unveiled Version 5.0 of its Tivoli Identity Manager software, the product's first major upgrade in two and a half years. The new version of the tool, which manages user access rights and passwords, can be deployed more quickly.

DATA CENTERS

Rackspace Goes Shopping For New Data Center Space

RACKSPACE US INC. is converting an abandoned shopping mall near San Antonio into an office and data center complex that the managed hosting services firm hopes will win recognition for its "green" features.

For instance, John Engates, Rackspace's chief technology officer, said the company is testing sensors that could regulate air temperature in the data center based on the needs of different pieces of equipment. "I think we all overcool our data centers to rules of thumb that were created back in the mainframe days," Engates said.

Rackspace also plans to use barriers, panels and curtain-like dividers to keep hot air exhausted by servers away from other equipment. In addition, it is investigating whether the roof of the former Windsor Park Mall could support solar panels.

The former Windsor Park Mall, future home of a Rackspace data center

Randy Smith, Rackspace's real estate manager, said the company will put both the data center and office space on raised floors so the air temperature can be set on a cubicle-by-cubicle basis.

The raised-floor portion of the data center will occupy 95,000 of the 1.2 million square feet of space in the mall. Building the IT facility and offices from scratch would have cost about $200 per square foot; Rackspace thinks the conversion will cost half that amount.

– PATRICK THIBODEAU

Q&A

Adam Chowaniec

Personal computing pioneer looks back at his Amiga

Long before geeks were cool — and rich — a group of engineers had to build the machines that would ignite the PC revolution and ultimately change how people communicate, play and do business.

In an interview with Computerworld, **Adam Chowaniec**, *chairman of Ottawa-based supercomputer maker Liquid Computing Corp. and one of those pioneers, talked about his role in developing the Amiga PC, and what he calls the innovation rut in the industry today.*

What was it like joining Commodore International so soon after the Commodore 64, which may be the best-selling PC ever, was released 25 years ago? It was a bigger challenge than it sounds. The Commodore 64 was the end of an era. The 64 was based on the 6500 processor, and it was the end of the line for that. We were starting fresh.

Was there a challenge that really stands out for you now? The biggest challenge for the Amiga was to get the application developers to develop the software. We never got the mainstream application players to do that, [so] the Amiga became more of a niche machine.

Is the industry as innovative today as 25 years ago? I don't think so. In many ways, computers have remained unchanged for the past decade except for a faster processor and more memory. There's less innovation than back in the '80s. The industry consolidated [and is] dominated by a [few] very large companies. As companies get bigger, innovation gets slower.

Will things improve? It's cyclical [in] nature. You go through periods of huge change. Then you get periods of stability, and then it happens all over again. [Another change] is imminent. Technology never stands still.

— Sharon Gaudin

BETWEEN THE LINES *By John Klossner*

BENCHMARKS LAST WEEK

Forrester Research Inc. said it expects IT purchases in the U.S. to increase 5% next year, down from an earlier 8% growth forecast.

Following last month's settlement of a patent infringement lawsuit, Microsoft Corp. released a preview version of Internet Explorer without the "click to activate" notice that users running ActiveX controls have seen since April 2006.

60 YEARS AGO: Bell Telephone Laboratories scientists John Bardeen and Walter Brattain created the transistor, with guidance from William Shockley.

Global Dispatches

U.K. Offers Reward For Missing Disks

LONDON – The HM Revenue & Customs agency here has offered a £20,000 ($41,000 U.S.) reward for information leading to the recovery of the two CDs holding data on 25 million people that were stolen in the U.K.'s biggest-ever data breach.

The CDs were lost in November while in transit between the Revenue & Customs facility and the National Audit Office.

The reward was disclosed earlier this month after U.K. Chancellor of the Exchequer Alistair Darling announced that Kieran Poynter, chairman and senior partner at PricewaterhouseCoopers, would lead a review of the "exact circumstances" surrounding the debacle.

A core team of 32 detectives from the Metropolitan Police Service's specialist and economic crime command has been assigned to the case. Officials said there is no indication that the data has fallen into the hands of criminals.
Tash Shifrin,
Computerworld U.K.

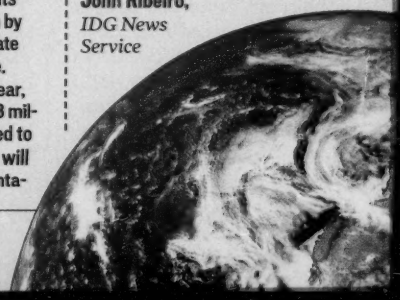
ASG Gets Oracle Consolidation Pact

CANBERRA, Australia – The Australian Capital Territory (ACT) government has awarded ASG Group in West Perth a contract to reimplement its Oracle Financials system by consolidating nine separate implementations into one.

Work under the two-year, $2 million Australian ($1.8 million U.S.) contract is slated to begin next July. The firm will provide system implementation and integration services to the government's Shared Services Center, which provides processing and tactical services to government agencies, ACT said.
Rodney Gedda,
Computerworld Australia

SHORT TAKES

Dell Inc. plans to phase out its hardware design unit in Bangalore, India, and instead boost its reliance on contract manufacturers. Employees were told that the facility will shift its focus to software development. The hardware work will move to plants in Taiwan and Austin.
John Ribeiro,
IDG News Service



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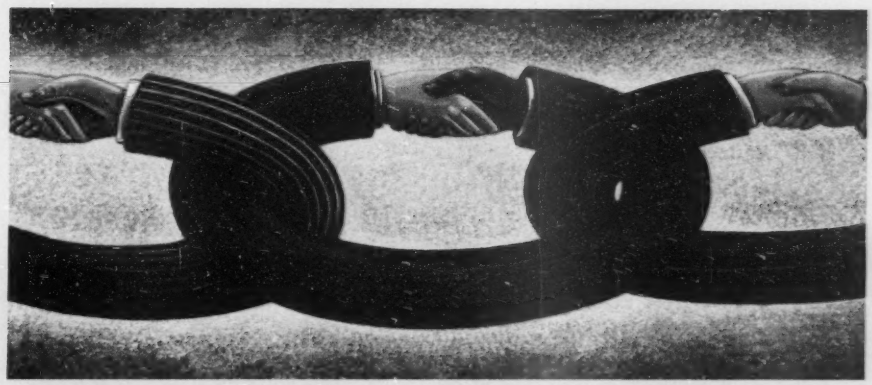

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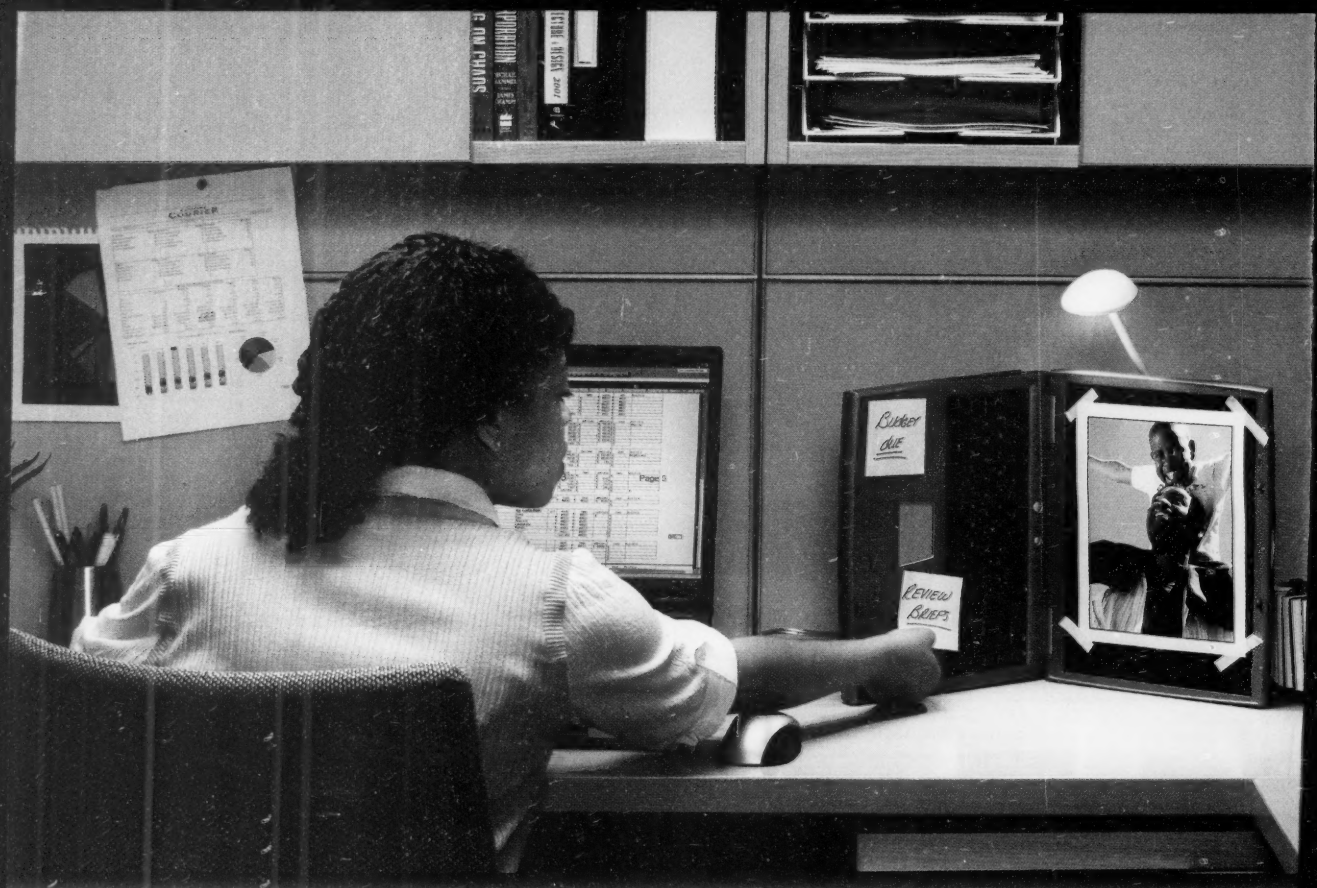

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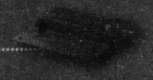

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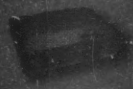

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Iranians Claim to Use AMD Chips in Supercomputer

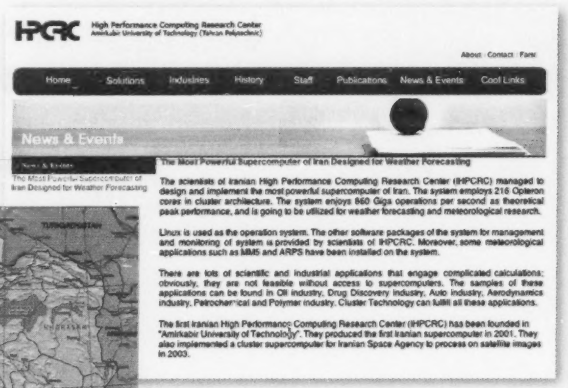
A research center's Opteron-based system raises questions about U.S. trade sanctions — and where the processors came from. **By Patrick Thibodeau**

DESPITE FEDERAL antiterrorism trade sanctions that bar the sale of U.S.-made computer technology to Iran, a computing research center there claims to have used Advanced Micro Devices Inc.'s Opteron processors to build that country's most powerful supercomputer.

The Iranian High Performance Computing Research Center said in an undated announcement on its Web site that it has assembled a Linux cluster with 216 Opteron processing cores. The system will be used for weather forecasting and meteorological research, according to the IHPCRC.

It's a relatively small machine, with claimed peak performance of 860 billion floating-point operations per second. In comparison, the last two systems on the latest Top500 list of the world's fastest supercomputers were benchmarked at 5.9 trillion operations per second.

But the fact that the IHPCRC obtained the Opterons has put a spotlight on AMD as well as a distributor of its products in the United Arab Emirates and the UAE as a whole.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The Most Powerful Supercomputer of Iran Designed for Weather Forecasting
The scientists of Iranian High Performance Computing Research Center (IHPCRC) managed to design and implement the most powerful supercomputer of Iran. The system employs 216 Opteron cores in cluster architecture. The system enjoys 860 Giga operations per second as theoretical peak performance, and is going to be utilized for weather forecasting and meteorological research.
Linux is used as the operation system. The other software packages of the system for management and monitoring of system is provided by scientists of IHPCRC. Moreover, some meteorological applications such as MM5 and ARPS have been installed on the system.
There are lots of scientific and industrial applications that engage complicated calculations; obviously, they are not feasible without access to supercomputers. The samples of these applications can be found in Oil industry, Drug Discovery industry, Auto industry, Aerodynamics industry, Petrochemical and Polymer industry. Cluster Technology can fulfill all these applications.
The first Iranian High Performance Computing Research Center (IHPCRC) has been founded in "Amirkabir University of Technology". They produced the first Iranian supercomputer in 2001. They also implemented a cluster supercomputer for Iranian Space Agency to process on satellite images in 2003.

▲ The IHPCRC's announcement of its Opteron-based supercomputer

A group of photos that was posted on the IHPCRC's Web site, apparently showing workers assembling the supercomputer, included one with two stacks of boxes in the background. Each of the boxes had the word "Thacker" and the initials "U.A.E." handwritten on its side.

Until this month, "Thacker/Sky Electronics" was listed on AMD's Web site as an authorized distributor in the UAE. Thacker FZE and Sky Electronics LLC, whose managing director is named Manoj Thacker, are related companies. But AMD deleted their listing from its site after a version of this story was posted on *Computerworld.com* on Dec. 6.

An AMD spokesman said last week that the distribution deal with Thacker/Sky was terminated in July but that the companies were left on the list of distributors because of "an oversight on our part." Even now, though, Sky Electronics identifies itself as an AMD "partner" on its Web site and includes AMD processors among the products it sells.

AMD said in a written statement that it "has never authorized any shipments of AMD products to Iran or any other embargoed country, either directly or indirectly." The company added that all of its authorized distributors "have contractually committed" that they will comply with U.S. export-control laws.

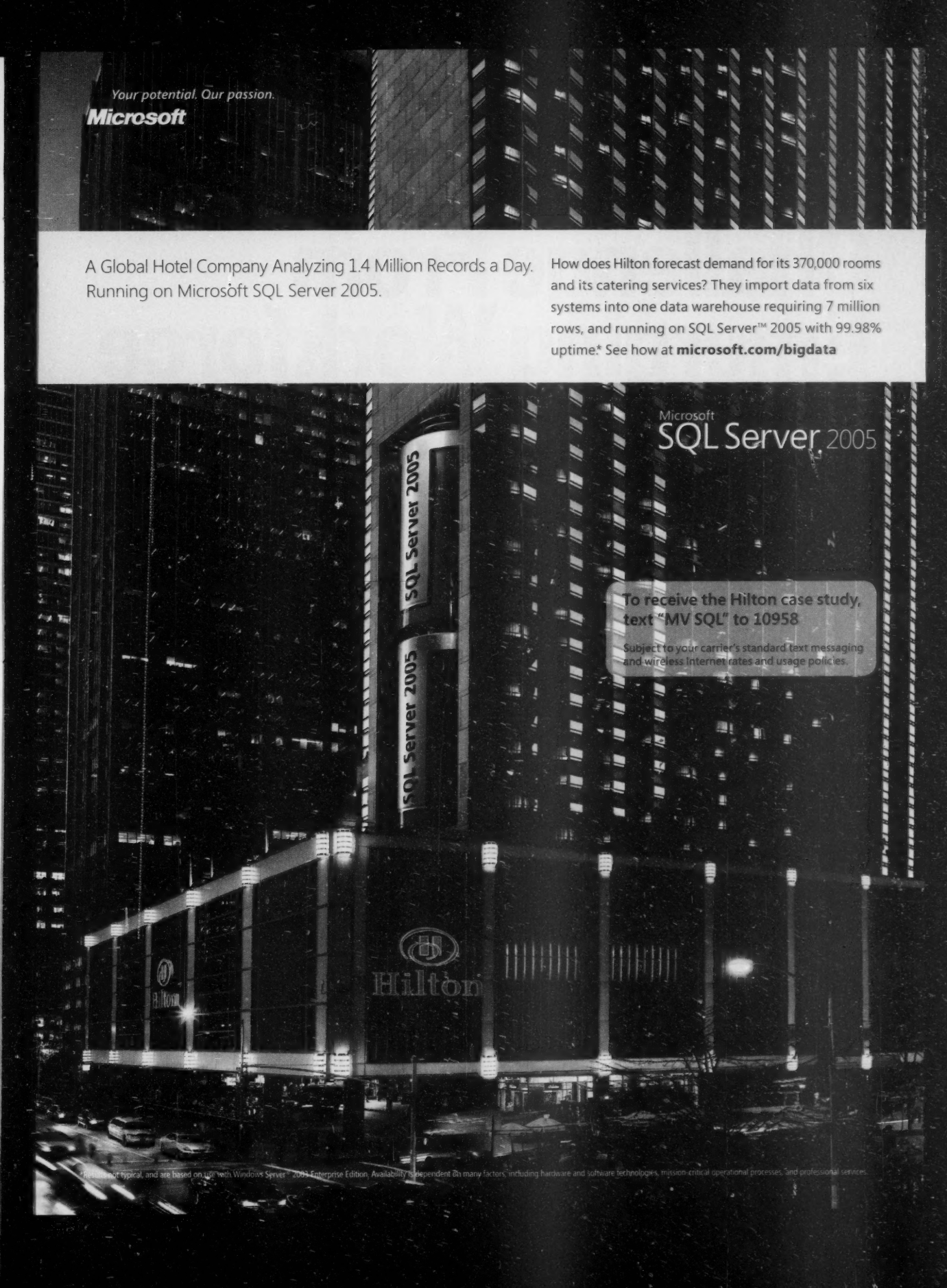
Anil Clifford, a spokesman for Thacker and Sky Electronics in the emirate of Dubai, said that the companies don't have any customers in Iran. "It is an embargo [situation] for us," he said. But goods can be imported into Iran by many different means, Clifford added. "There are a lot of Iranians in Dubai," he said. "They might buy locally from here one or two pieces and take [them] to Iran."

Michael Izady, an adjunct professor of Middle Eastern and Western history at Pace University in New York, said via e-mail that "much of what Iran gets in computer parts and advanced devices are brought in — licitly or illicitly — from the UAE."

Products may change hands many times before they get to their ultimate destinations, noted Christopher Wall, an international trade attorney at Pillsbury Winthrop Shaw Pittman LLP. As a result, the trade sanctions against Iran are "extremely difficult to enforce," Wall said. "The rules are very easy to get around."

A spokesman for the U.S. Department of Commerce, which enforces the export control laws, declined to comment on whether it plans to investigate how the Opterons got to Iran.

Attempts to reach officials at the IHPCRC were unsuccessful. The supercomputer photos appeared to have been removed from the center's Web site last week, although it wasn't clear whether that was related to the controversy or part of an ongoing site redesign. ■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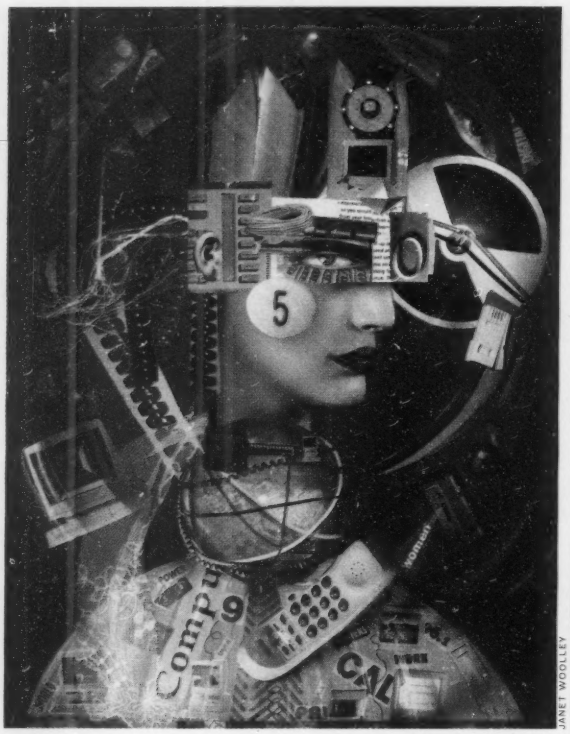
IT Faces Stiff Challenge From Emerging Workforce

The children of baby boomers will expect collaboration tools and less-structured processes. By Heather Havenstein



CHRIS SCALET realized that the next generation of workers will likely require drastically different IT tools and policies as he watched his 20-year-old daughter studying for college classes recently.

Scalet, senior vice president and CIO at Merck & Co., noticed that she simultaneously studied, listened to her iPod, sent text messages and browsed through pages of the Facebook online social network.

"How she will work in the future will be very different from how we work today," Scalet said. "She is going to expect [collaboration] tools . . . to be able to work. We don't think that way today as corporations. We think, as baby boomers, [about a] very traditional, structured, formal [work process]."

Scalet is among a growing number of IT executives looking at what changes need to be made to adequately meet the needs of the 80 million children of baby boomers, who are just now entering the workforce.

Businesses must quickly find a way to adapt to new technologies that will be essential in what Don Tapscott calls "the next-generation enterprise." Tapscott is coauthor of *Wikinomics* (Portfolio Hardcover, 2006), a book about how the Internet and mass collaboration are about to dramatically affect the global economy.

"Collaboration models are going to dominate the 21st century marketplace," he predicted. "If you don't understand that, you're going to fail."

Though Scalet said it's too early to say exactly how technology will have to evolve, he agreed that CIOs must "think very differently about how to build future capabilities."

"This next generation of employees will pull corporations toward it," he said. If companies lack the technology demanded by the new workers, "they will pack up and go someplace that does. IT has to take a leadership role."

"Most companies are not geared to handle [social networks]. It is hard enough to handle inappropriate use of the Internet in the workplace.

DAVID BERRY, SENIOR VICE PRESIDENT AND CIO, COTY INC.

But, warned David Berry, senior vice president and CIO at cosmetics company Coty Inc., such new technologies still must fall within corporate IT parameters in areas like security and governance.

Berry said he is already working to determine which of the new col-

laboration technologies can fit into a corporate environment — and which cannot.

"Social networks, for example, in a nonworkplace environment might be OK, but what about managing it when litigation steps in?" Berry said. "Most companies are not geared to handle [social networks]. It is hard enough to handle inappropriate use of the Internet in the workplace."

New York-based Coty is using instant messaging and online forums, and it is gearing up to roll out a corporate portal with access to instant messaging, e-mail and company news, Berry said. He acknowledged that the effort so far is "sort of a Yahoo" first-generation Internet approach to technology that may seem "stale" to the younger set. Therefore, he added, the company is also integrating forums, wikis and RSS feeds into the mix.

Berry noted that as time goes on, IT managers will have to play the "good guy, bad guy" role in managing the rollout of these technologies. "It is also our responsibility to train the younger people in the proper use of technologies, to respect policy and process, and not only have fun with the new technologies," he said

Managers must also consider the cost of rolling out the new technologies. "The younger folks haven't had to deal with ROI or capital investments," Berry said.

'A LOT OF COOL STUFF'

Brian Fetherstonhaugh, chairman and CEO of OgilvyOne Worldwide, said that the New York-based direct marketing firm is looking for ways to blend traditional work methods and new technologies through its three-year-old entry-level associate training program.

Fetherstonhaugh acknowledged that he had underestimated the needs of younger workers until he began meeting monthly with new employees in the associate program.

"The issue of talent and finding and keeping it is critical," he noted. "Their patience is different. Their appetite for work and play is extremely high." The new workers "know a lot of cool stuff we don't know."

At Whitehouse Station, N.J.-based Merck, some workers maintain that the emerging technologies will be "a huge part of our business in the future," said Scalet. Others, however, believe that the new tools are "a fad that will pass," he added.

But while Merck is trying to identify the middle ground between those two camps, Scalet is sure that the company will have to find a way to support the technology demands of the baby boomers' children. "There are 80 million potential workers who are coming at us with these types of capabilities," he noted. "We're going to have to deal with that."

Executives are encouraging Merck employees to experiment with social networks, which Scalet said could lead to a dramatic change in the company's method for solving problems.

The future model could involve electronically sharing a business problem with anyone with Web access "and letting 15,000 people solve it in an hour," he said. "That potentially is a very powerful model." ■

Author: Employers Must Ease Way for Next Generation

IN HIS 1997 BOOK, *Growing Up Digital: The Rise of the Net Generation*, author Don Tapscott predicted that the children of baby boomers would become enormously influential as the first generation to grow up surrounded by high-tech tools and toys.

Tapscott's latest book, *Grown Up Digital*, revisits the so-called Net generation – those born between the late 1970s and early 1990s – and finds that their unique attitudes and aptitudes are already invading the workplace. The book is due out next year.

Tapscott said his research has found that the Net generation offers unique talents to employers, who will have to adapt hiring and workplace processes to effectively recruit and retain them.

The research included interviews with more than 11,000 of the 80 million members of the Net generation in a $4 million study.

Tapscott contended that high-profile knocks against the children of baby boomers – that they are a generation that's uninformed, lazy and looking to move up the corporate ladder without putting in the required blood, sweat and tears – are wrong.

The group's work habits, he said, are just different from those of their parents, because they have been profoundly influenced by technologies like instant messaging, video games, mobile phones and search engines.

"These kids' brains are actually wired differently," Tapscott said. "Their IQs are up by all the measures we have. This is the smartest generation ever. They are highly motivated and bring a new kind of culture." And some, he noted, are quitting their jobs when they bump up against a traditional corporate culture.

Tapscott said that the research showed that companies must accommodate the new generation's need for speed – real-time instant messaging conversation is its core communication method. The preference for quick, peer-to-peer interaction can be stifled by a traditional corporate hierarchy and work processes, he said.

The new workforce also wants to take advantage of mobile technology, which provides a freedom that "has become like oxygen" to them, Tapscott said.

The desire for freedom and balance can be exploited for competitive gain, he noted. Companies, for example, could use collaboration technologies in virtual teaming arrangements, allowing Net generation workers to satisfy their need to socialize with peers worldwide.

Based on the research, Tapscott also suggested that companies do the following:

- **Provide a healthy amount of project work that offers cyclical, intensive projects.**
- **Set up opportunities for young workers to quickly present their ideas to managers.**
- **Encourage informal relationships between managers and workers.**

– HEATHER HAVENSTEIN

On the Mark

HOT TRENDS ■ NEW PRODUCT NEWS ■ INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Don't Drop That Handheld!

MARKET RESEARCH firm Venture Development Corp. in Natick, Mass., recently issued a report indicating that when consumer handheld devices are used for business applications, their total cost of ownership runs 23% higher than that of units specially built for business needs. Why? Mainly because people drop the dainty devices. Yet businesses continue to deploy frail handhelds because managers like the low purchase price, observes Kevin Mills, CEO of Newark, Calif.-based Socket Communications Inc., which does business as Socket Mobile. Mills claims that his company's SoMo 650 handheld, while not ruggedized, is far more durable than rinky-dink consumer gadgets, saving money in the long run. Perhaps equally important: The SoMo 650 was designed to have a three-to-five-year lifespan, unlike consumer units, which disappear like autumn leaves each year. Mills says business buyers take a long time to specify, budget for and deploy mobile devices. He claims that often, by the time the buying process is complete, a consumer device has been discontinued, and the purchase cycle has to begin again. Mills says that in the coming year, Socket Mobile intends to build units for specific markets, such as health care. The SoMo 650 starts at $695.

The SoMo 650 is designed to be durable for business users.

Handsets Will Be More Secure Than PCs

The best protection from malware that mobile handset users have today is the proliferation of mobile platforms. With so many CPUs, operating systems and proprietary applications, the market is highly differentiated, and it's hardly worth a hacker's time to craft an attack that will likely have few victims. That's changing, suggests Adrian Turner, CEO of San Francisco-based Mocana Corp. He points to a "convergence" on Linux and the ARM chip in mobile devices, "which creates a standard to attack." Still, Turner says he believes that the industry will deliver secure handsets because "we got it so wrong on the PC." He claims that carriers will offer enterprise customers certified, secure handsets that will support security standards like IPsec, SSL and SSH, and feature malware detection and policy enforcement. Mocana, which already offers many of these security tools to handset developers, will be adding the ability to remotely manage handset patching in the coming quarter.

2004
The year the first mobile malware appeared, per Symantec Corp.

You Can't Manage SOA Apps With Any Old Tool

Using Web services as a model for building applications works for developers, who can incorporate existing services into a project. But most IT operations managers are forced to monitor the health of these new apps with tools that "lack the context for how shared components are leveraged," argues Rob Greer, vice president of marketing and product management at ClearApp Inc. in Mountain View, Calif. He says traditional management software doesn't understand service components' relationships or business contexts.

$18.4B
SOA-related market in 2012, predicts WinterGreen Research Inc.

Needless to say, Greer claims that his company's QuickVision product can get you that data by discovering services on your network and then mapping all possible paths among them. The software works with a laundry list of J2EE application, portal and integration servers and adds Oracle Fusion to the roster of middleware it supports, with the release of Version 7.5 in February. Pricing is per processor. ■

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■ OPINION

Virginia Robbins

You've Been Decentralized

EACH MORNING, after checking my urgent messages, I take a few minutes to read a daily e-mail from one of my suppliers. Normally very entertaining, these e-mails typically discuss industry trends or pitch a new product. Today, the authors decided to opine about IT and specifically the management of IT.

They noted how hard it is to get a great CIO — someone who can speak the language of business and do IT well. Given the shortage of such CIOs, the authors recommended that more IT work be outsourced and that whatever remains be pushed out to the business units. They concluded by saying that IT could be a profit center only if it was located in the business units and that therefore the best IT is decentralized.

I wish I knew what their IT department had done to annoy them!

As a CIO, what should you do if your CEO tells you he has decided to increase IT outsourcing and move your IT department into the business units?

For starters, you want to keep smiling, keep listening and keep an open mind. Assuming that you like your current company or have a mortgage to pay, it's best not to do anything until you find out what your CEO is thinking. Has he really made up his mind, or is he reacting to something he just read?

If he has made up his mind, keep your equilibrium and say, "How can I help?" At worst, having a good attitude gets you a better severance package and reduces your stress.

It may be that you aren't being fired, but that your job duties are being reduced. That probably means that management likes you but has lost confidence in your ability to deliver the value expected of your position. Generally, confidence decreases not because of anything you've done, but because of what you have *not* done. This isn't as bad as it sounds, since it's easier to start doing something than it is to stop. You can show your willingness to shoulder the responsibility and move on by asking, "If you were me, what would you have done that I didn't do?"

■ A smart CIO will keep smiling, keep listening and keep an open mind.

If you can't get an instructive answer, then review the behavior of those managers who emerge as survivors. Sometimes you will find unethical behavior, but more commonly you will see ways that you aren't a great fit.

At one company I worked at, all the survivors played golf. I didn't. The conversations that took place on the golf course were the primary communications at the executive level. Once I understood that, I knew that that company was not the right place for me to do my best work. From that experience, I've learned to ask about golf early on. What you learn now will help you choose a job that's a better fit next time.

Much more difficult is being asked to stay on and help facilitate the decentralization of IT. I know of no one who has done well in this type of transition. One friend survived downsizing and outsourcing only to end up working 20 hours a day; another survived and ended up working four hours a day on things that had nothing to do with IT. They had retention packages that ensured that they were very well compensated, but they hated their jobs.

Decentralized IT means management through influence, not through direct power. That requires using very different skills than you're accustomed to. Most people who have been successful in a centralized structure won't do well in a decentralized one. It may be worth trying, provided that you negotiate an exit package before finding out you've failed at the different style.

And failing under decentralization isn't necessarily fatal. Keep in mind that the arguments for and against decentralization have raged for the past 25 years or more. Going through decentralization is a chance to learn, and you will have opportunities to leverage your new experience in the future. ■

Virginia Robbins *is a former CIO who is currently the chief administrative officer responsible for bank operations at the California Bank of Commerce. You can contact her at vrobbins@sbcglobal.net.*

Dossier

NAME: Henry Malmgren

TITLE: IT manager, South Pole Station

ORGANIZATION: Raytheon Polar Services, under contract to the National Science Foundation

LOCATION: Amundsen-Scott South Pole Station, Antarctica

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UNOFFICIAL WEB SITE: www.southpolestation.com

PERSONAL BLOG: www.theglobalguy.com

MOST INTERESTING THING PEOPLE DON'T KNOW ABOUT HIM? "I spent four months as a volunteer in Mongolia. I worked for an organization called Geekcorps that sends technology professionals to Third World countries."

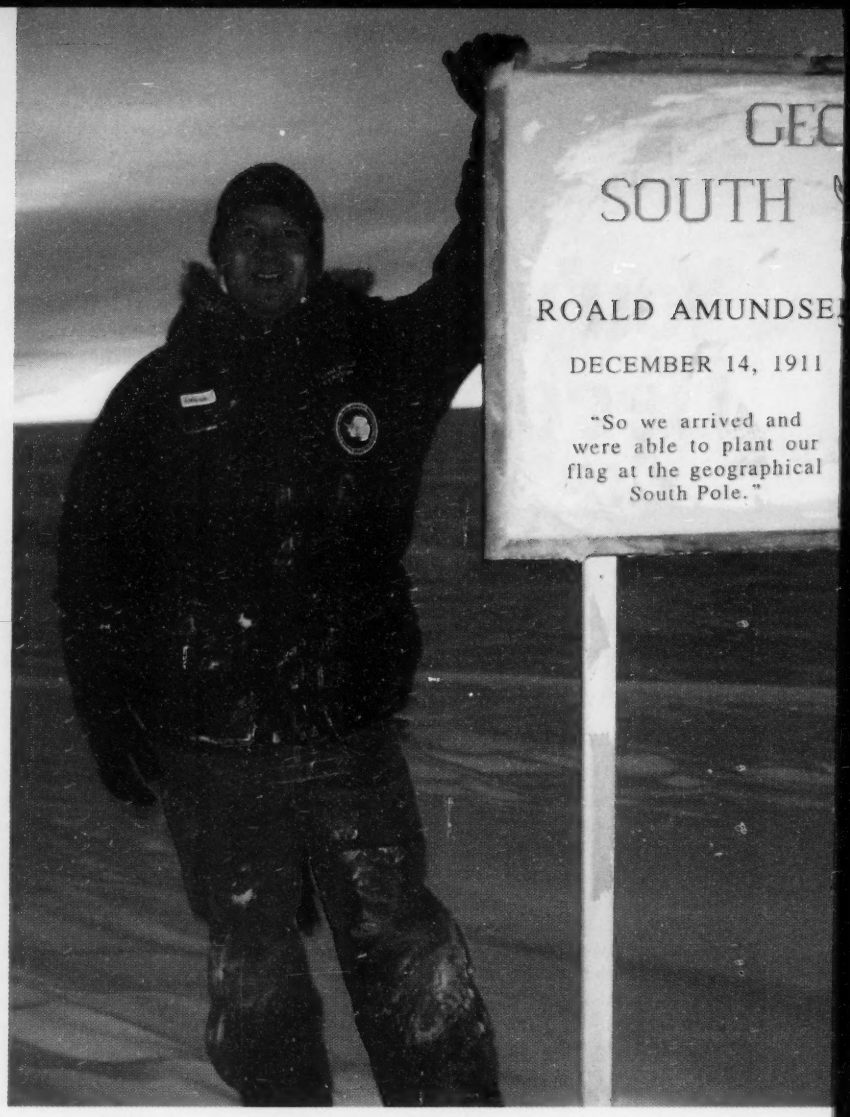
FAVORITE TECHNOLOGY: "The global reach of the Internet. I've always been amazed that no matter where I've traveled, I've always found an Internet cafe available for a fairly inexpensive price."

FAVORITE NONWORK PASTIME: "Travel and photography. Luckily, Antarctica is a great place for both."

PHILOSOPHY IN A NUTSHELL: "Never be afraid to take advantage of an opportunity. You never know where it might take you."

FAVORITE VICE: "Saving up network TV series to watch down here instead of in the real world."

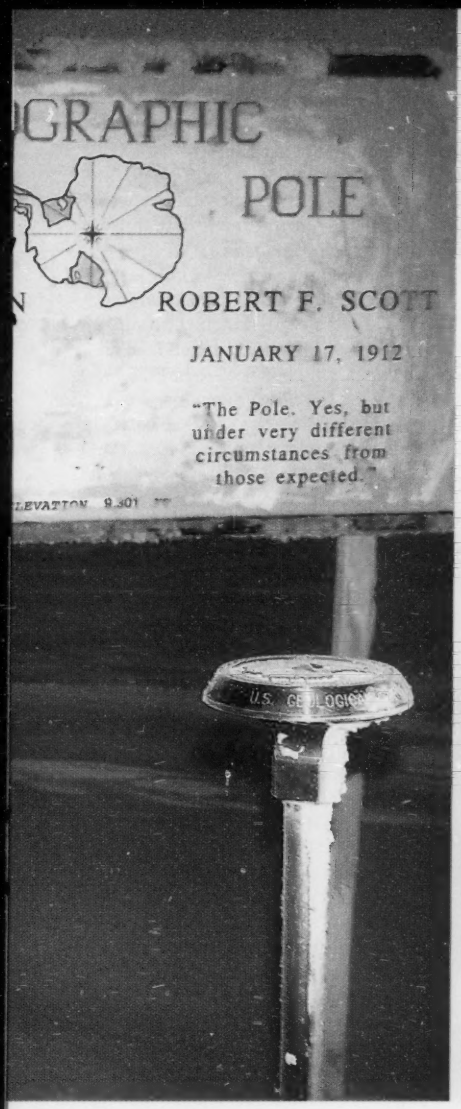
LAST BOOK READ: *Thunderstruck*, by Erik Larson. "It's the story of the invention of radio and its effect on chasing down an early 20th-century murder across the Atlantic."



■ THE GRILL | COVER STORY

Henry Malmgren

The South Pole Station's IT manager ch-ch-ch-ch-challenges of running the c-c-coldest



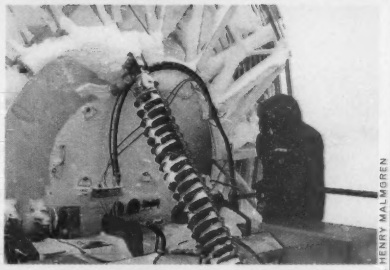


PHOTO CREDITS: JEAN MARCHANT, JON BERRY, HENRY MALMGREN

Clockwise, from left: IT manager Henry Malmgren stands near the South Pole marker (foreground right); the Southern Lights; extreme cold requires dexterity-limiting clothing; the station's backup data center vents directly to the outside.

> **Nobody here is your average person.**

Henry Malmgren was determined to get to the South Pole. After graduating from Texas Tech University in 1998 with a degree in MIS, he applied for a job in the Antarctic every year until National Science Foundation contractor Raytheon Co. hired him as a network engineer in 2001. Since then, he has alternated between Denver and the Amundsen-Scott South Pole Station. He spent two summers and two winters there before working his way up to IT manager. Staying over is a commitment: Once the winter starts, there's no way to get into or out of the base until summer begins eight to nine months later.

OK, I have to ask: How's the weather down there? Right now it's pretty nice. We're at a nice -64 degrees Fahrenheit with only about a 6.3-knot wind, so it's what we would consider a really good day.

What is your role at the station? My domain includes everything from the IT superstructure to the satellites to the telephone systems and handheld radios. Anything telecom- or computer-related, I'm ultimately responsible for.

I have a staff of about seven supporting about 250 to 270 people during the summer season, which is where we are right now. During the winter, which runs from about mid-February to mid-October, we drop down to just four [staff] supporting 60 to 70 people.

What is a typical workday like for you? We work nine hours a day minimum, six days a week. I spend the first couple of hours answering e-mails from the Denver folks. [Then] I go out and talk to the scientists to see if they're getting what they need and if there are any problems we can solve.

I love the fact that, although I'm on the management side, I get to stick my hands in the technology a whole lot. I very much feel like a player/coach because I have five years' worth of experience with these systems while most of my employees are here for the first time.

What takes up most of your time? Information security has really come to the forefront in our priorities. Right now, keeping up with security vulnerabilities and patches and things like that is taking a good third of our time. That's a change from even two years ago.

What's the most outrageous experience you've had? We have this tradition called the "300 Club." When the temperature drops below -100, we hike the sauna up to 200 degrees and stay in there as long as we can stand it. Then we run outside, naked, around the geographic pole and back inside so we get that total 300-degree change in temperature. That happens every year, and it's absolutely amazing. Just the feel of that cold on your skin is like nothing else. People always wonder if you can feel the difference between 60 below and 100 below. The answer is absolutely.

Doesn't your skin freeze in those temperatures? That's why you spend as much time as possible in the sauna. The trick is to pace yourself. You can't run, because if you do, you're going to get frostbite in your lungs. But you don't want to walk too slowly, or you will lose all of your body heat and get frostbite in various sensitive spots. There's definitely a happy medium of a fast

chats about the **technical, environmental** and **entertainment darkest, most isolated** IT operation on earth.

The 300 Club is a group of entertainment-starved South Pole crazies who steam in a 200-degree sauna, then run naked around the pole marker, experiencing a 300-degree temperature change. Here's Henry Malmgren on a balmy -103-degree night. No, that's not gray hair on his head; it's frost.

CREDIT: DANA HRUBES

"People always wonder if you can feel the difference between 60 below and 100 below. The answer is absolutely.

walk. But even at that, when everyone comes back inside, with all of the hacking and coughing going on, the place sounds like a tuberculosis ward for the next couple of days.

What is your data center like? We have a brand-new station that we just completed [in 2005], and we have a full-on data center with raised floors and everything you would have anywhere else in the world. We have about 30 servers.

We also have what we call the RF [radio frequency] building, which is about a kilometer away from the main station, and we have a backup emergency data center out there where we keep extra file servers and a SAN. That's where the satellite dishes are. If anything happens to the primary data center, we can switch our operations out to there.

Do you work with an IT counterpart back in the States? There's a whole team I can call on back in Denver, and we depend on them quite a bit. If we have problems and we can't solve them down here, we rely on our Denver staff to provide troubleshooting.

Is it tough to hire staff to work down there? We usually have a high number of applicants. It took me four years of applying before I was hired. But there are some times when we just don't have enough candidates. It fluctuates with the state of the economy.

Right now, I'm in a huge competition for satellite communications guys with contractors in Iraq and Afghanistan. Those guys are able to pay so much more than we can. Of course, the advantage down here is that nobody is shooting at you.

What technical challenges do you face? Our biggest challenge is bandwidth. We have it only 12 hours a day at anywhere from T1 [1.54Mbit/sec.] to 3Mbit/sec. speeds.

We also have a transponder that we can use to send 60Mbit/sec. unidirectional from the pole to the real world. We use that to upload scientific data. Our record was 94GB out in one day.

We have three different satellites we use to provide our Internet. All of those are pretty ancient. We have a weather satellite, an old maritime communications satellite and an old NASA satellite, the first one that was launched [to support the space shuttle] back in 1981. The others were launched in 1976 or 1977. Basically, we're scavenging whatever we can find, and we can only see each satellite for three to four hours a day.

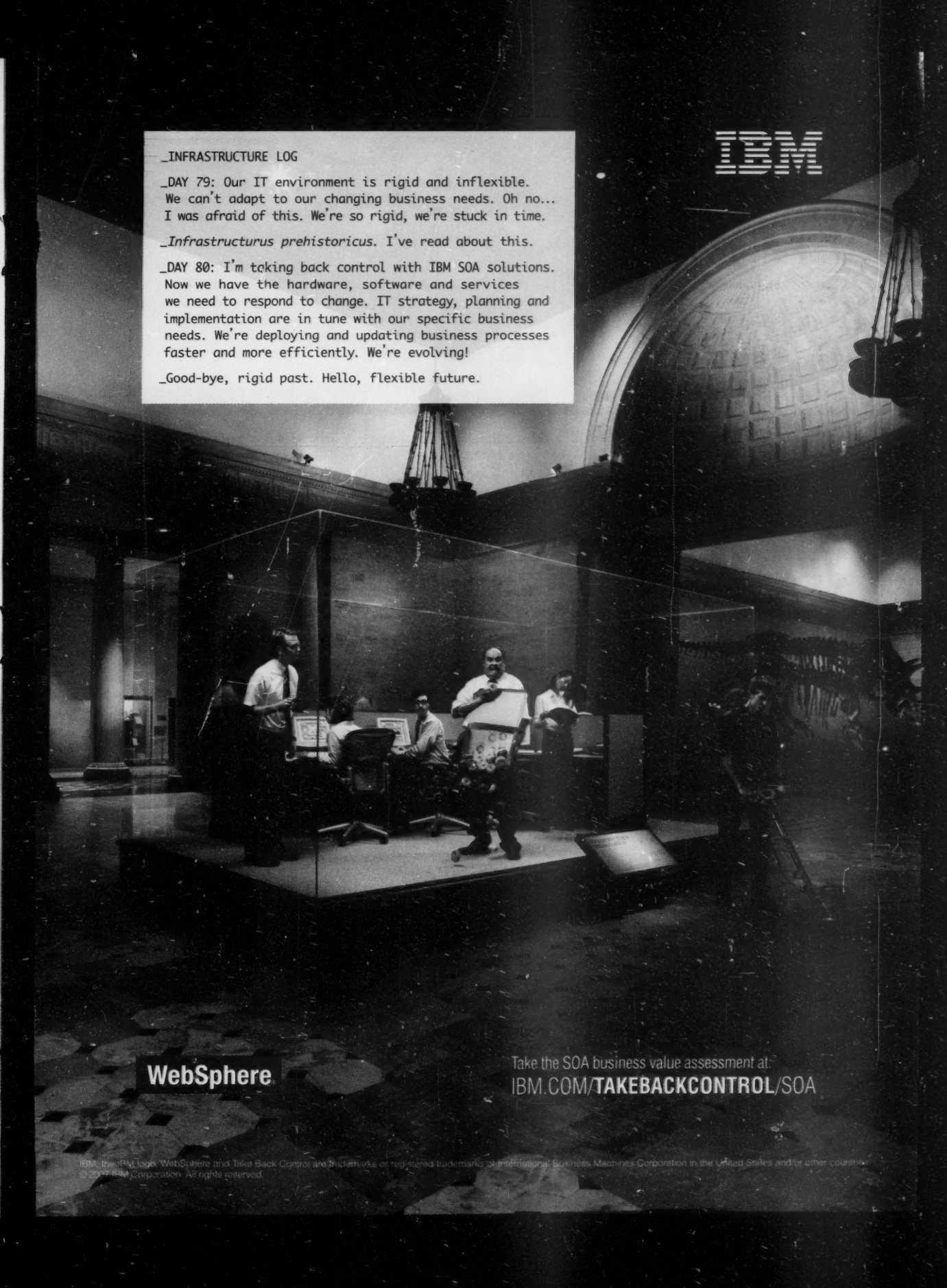
Other than that, we're almost a typical network. We use Cisco gear, we've got land lines to all of the bedrooms, we've got fiber optic distributed throughout the building, so if fiber to the desktop ever becomes a reality, the building is prewired for that. We are trying to be as future-proof as possible.

What is the most interesting project you've worked on lately? In the past year, we put up a really cool system where we're using the Iridium satellite network. We have 12 modems multiplexed together and have a total of 28.8K connectivity 24/7. Nobody thought it would work. Nobody ever thought we would have 24/7 connectivity at the South Pole. Now that's our last resort. When our broadband satellites are down, we switch to the Iridium system automatically.

What happens if the satellite link goes down on your end? Who goes out to the RF building to wiggle the antenna? Everyone here has had the experience of walking out to the remote data center in -100 degree temperatures when it's pitch black outside. That's part of the adventure of coming down here: You can have these extreme situations that you're faced with. If you can handle swapping a router out at -100 degrees here, then you can handle it anywhere.

What scientific projects do you support? There are several really big science projects here, and they all generate huge volumes of data. Our 800-pound gorilla right now is the South Pole Telescope, a 10-meter-in-diameter radio telescope that scans the cosmic microwave background. They're looking for things like dark matter, and it generates tons of data that they want to send back

Continued on page 24


_INFRASTRUCTURE LOG
_DAY 79: Our IT environment is rigid and inflexible. We can't adapt to our changing business needs. Oh no... I was afraid of this. We're so rigid, we're stuck in time.
_*Infrastructurus prehistoricus*. I've read about this.
_DAY 80: I'm taking back control with IBM SOA solutions. Now we have the hardware, software and services we need to respond to change. IT strategy, planning and implementation are in tune with our specific business needs. We're deploying and updating business processes faster and more efficiently. We're evolving!
_Good-bye, rigid past. Hello, flexible future.
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The Amundsen-Scott South Pole Station must have all of its supplies flown in during a three-month window during the Antarctic summer.

CREDIT: HENRY MALMGREN

"If you can handle swapping a router out at -100 degrees here, then you can handle it anywhere.

Continued from page 22

to the States as quickly as possible. If we didn't have [satellite broadband], they would have to store the data for the nine-month winter. This way, they can see the results much quicker. They can also analyze any issues with the telescope and correct them while the winter observing season is going on, rather than having to wait a full year.

How do you support the researchers and scientists? Generally, they provide their own equipment, and we provide the back end. But when something breaks, we do step forward and help them get it repaired. Many scientists — and I can't say that I blame them — don't want to trust their data to anyone else. Our support is really just providing the communications they need, providing the technical expertise.

Do the conditions affect reliability and uptime at all? It is incredibly dry, [so] static electricity is a huge problem for us. We lose more laptops and hard drives to static electricity than anything else.

Our biggest failures are things like power supplies and hard drives. We're at an altitude of 12,000 feet, and with the thin air here, cooling fans don't push a lot of air. Anything heat-related tends to need a lot of extra TLC.

Hard drives also have a problem with the high altitude. Most hard-drive heads float on a cushion of air above the platter. We have fewer air molecules for hard drives to float on, so we have more hard drive crashes than anywhere else.

What happens when something breaks? Getting service is a little tough. We try to maintain at least a year's worth of spare parts.

What are the most – and least – fun parts of your job? The most fun is working with the scientists. Everybody down here, from the dishwasher to the scientists to the construction guys, they all have interesting background stories. Nobody here is your average person. The worst part is that I've done two full years down here, and being away from friends and family, especially for the holidays, can be really tough sometimes.

What unique management issues do you face? We have to do everything a year and a half in advance to get supplies on time. We get supplies by airplane, but those come through McMurdough Station, [and] it is supplied once a year by a cargo vessel. It's also a physically demanding job. A lot of people who come down here immediately get sick from the altitude. Other than the cold and the environment and the lack of fresh food, sometimes it almost feels like the real world. But then I look out the window and see the South Pole in my yard and realize that I have one of the best jobs in the world.

How do you address disaster recovery? That's a big deal. Fire is a huge danger in the Antarctic because it is so dry and because liquid water is such a hot commodity. We try to make sure that all of our data is backed up independently, and we run as many systems as possible in parallel in the two locations.

What have you learned from your time at South Pole Station that might help you in future endeavors? If nothing else, I would say diplomacy. Trying to work with a customer base that's everything from scientists to a guy that could be an iron worker who has never been here before and just wants to know how to turn on a computer and e-mail his family. It's such an interesting experience to learn how to educate different kinds of people.

How long will you keep going down there? I thought I would just do this for a single season, but somehow it always seemed too easy to keep coming back. Every time I come down here, I feel lucky. Every year is different, and I have a hard time imagining doing anything else. But my girlfriend is trying to convince me to do something closer to home. We're having ongoing discussions about that.

— Interview by **Robert L. Mitchell**

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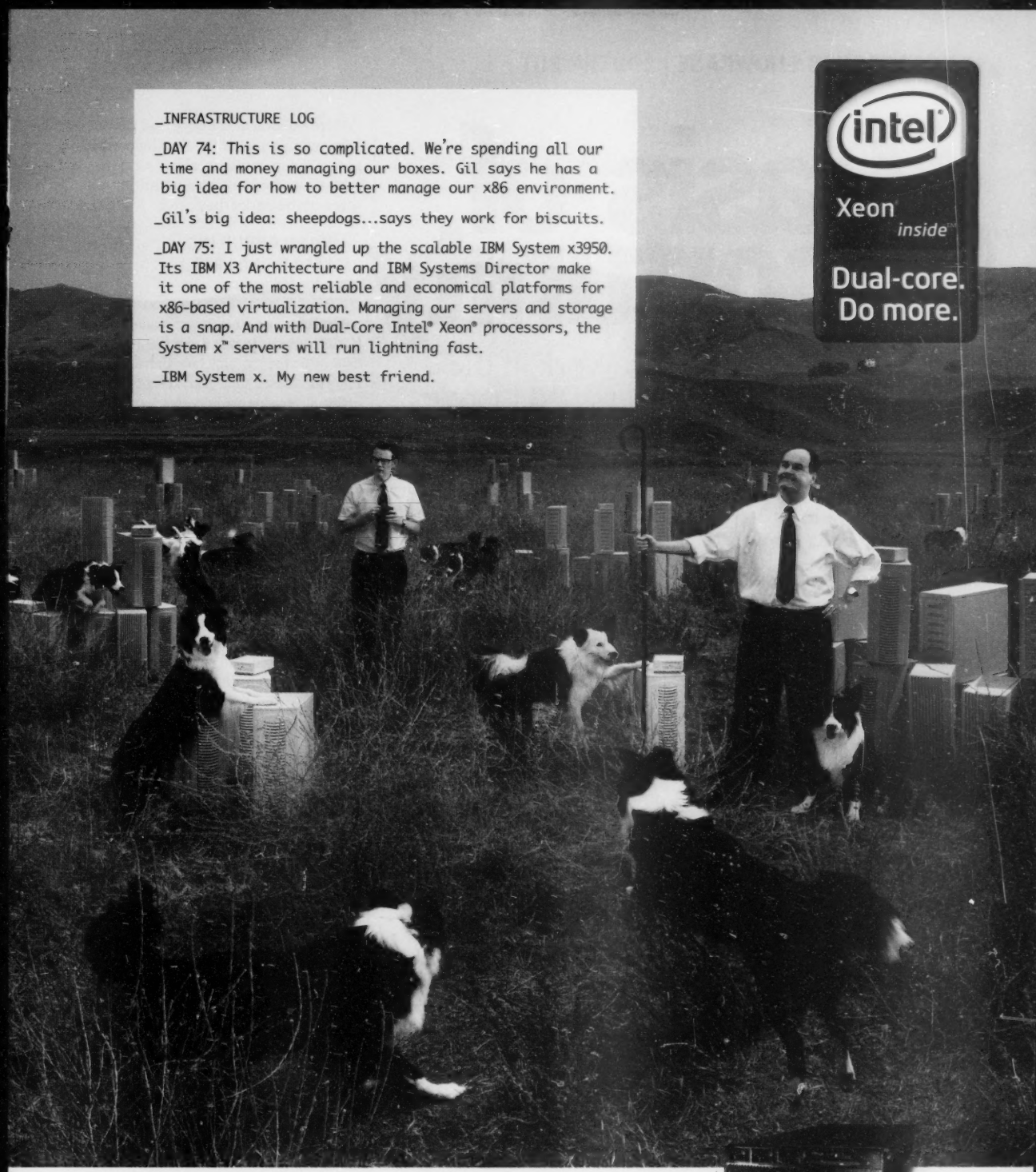
COLDER STILL

For an expanded version of this interview and more photos, visit **computerworld.com/careers.**


_INFRASTRUCTURE LOG
_DAY 74: This is so complicated. We're spending all our time and money managing our boxes. Gil says he has a big idea for how to better manage our x86 environment.
_Gil's big idea: sheepdogs...says they work for biscuits.
_DAY 75: I just wrangled up the scalable IBM System x3950. Its IBM X3 Architecture and IBM Systems Director make it one of the most reliable and economical platforms for x86-based virtualization. Managing our servers and storage is a snap. And with Dual-Core Intel® Xeon® processors, the System x™ servers will run lightning fast.
_IBM System x. My new best friend.
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Xeon inside
Dual-core. Do more.

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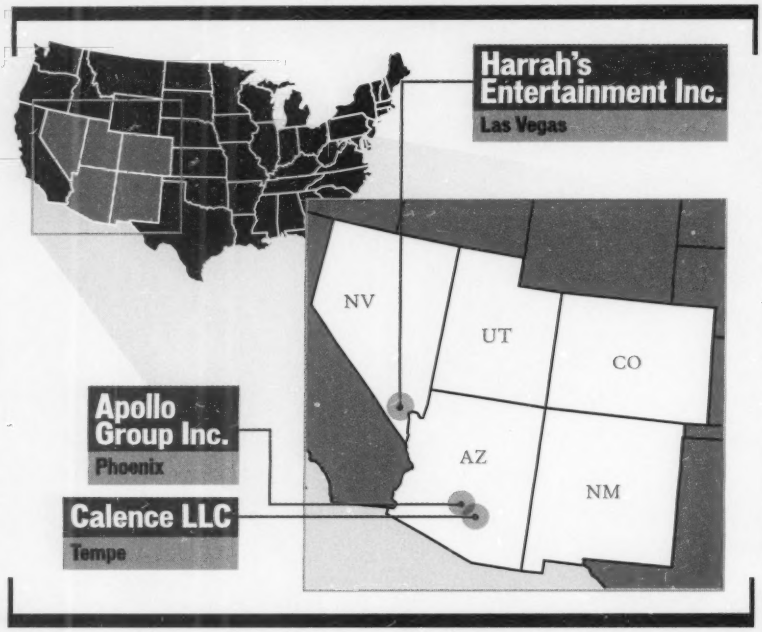
Oasis of Opportunity

These Best Places to Work in the **Southwest** balance diversified IT roles with **fun in the sun. By Thomas Hoffman**



THERE'S A LOT TO LIKE about the Southwest U.S. For starters, the average high temperature for Phoenix in February is 70 degrees, according to the University of Arizona's Web site.

And unlike big coastal cities that are beset by hurricanes, Nor'easters, mudslides, earthquakes and other natural disasters, the desert is hot but calm. Plus, the cost of living is cheaper than it is in big cities on the coasts. No wonder so many people are flocking there.

According to the U.S. Census Bureau, North Las Vegas, Nev., is the fastest-growing small city in America, and Phoenix is second in population growth among large cities (population 500,000 or more). It lags behind only Fort Worth, Texas.

Plus, the Southwest is more geologically diverse than its desert surroundings suggest. "In my younger days, I could drive two hours north to Flagstaff in the morning to go skiing and be back poolside at my home in the afternoon," says Dan Hill, IT director at Calence LLC, a Tempe, Ariz.-based network systems provider and one of *Computerworld*'s Best Places to Work in IT in 2006.

Here's a look at Calence and two other companies in the Southwest with great IT departments, along with information about job opportunities and some of the perks they offer.

APOLLO GROUP INC.

IT HEAD COUNT: 1,300

CIO: Joe Mildenhall

CURRENT IT PROJECTS: Creation of role-based customer relationship management (CRM) systems to help serve the more than 500,000 students who take University of Phoenix classes each year; rollout of a new online discussion environment for students.

CURRENT IT OPENINGS: Java, .Net and SQL programmers; network administrators; Unix, Linux and Windows technicians; and quality assurance test engineers.

EDUCATION EXPERIENCE: Apollo Group, best known for its online University of Phoenix and Western International University subsidiaries, is also an educational fount for its IT staff. IT professionals at Apollo Group can take online courses free of charge. In fact, many serve as teachers themselves.

For instance, the company's senior director of technical support teaches introductory courses in the University of Phoenix's associates program, says CIO Joe Mildenhall. "It's an enjoyable place to work when you think about the corporate mission," he says.

It's been a boon for Carrie Valencia, a software developer who joined the company in 1998 as a human resources assistant. When Valencia became a full-time employee in 2002, she took advantage of the tuition waiver program and obtained a bachelor of science degree in IT in 2005. Since then, she has been a full-time developer.

"Every day at my job is pretty much a learning experience," says Valencia, who maintains and customizes the company's ADP human resources system. "This company has given me opportunities to strengthen and learn new skills. It's a perfect fit for me."

For example, Valencia has taken SQL, .Net and object-oriented programming classes, and she recently completed a two-day Microsoft SharePoint course, through a training program known as the Apollo Corporate University, which offers a mix of online and instructor-led courses. The

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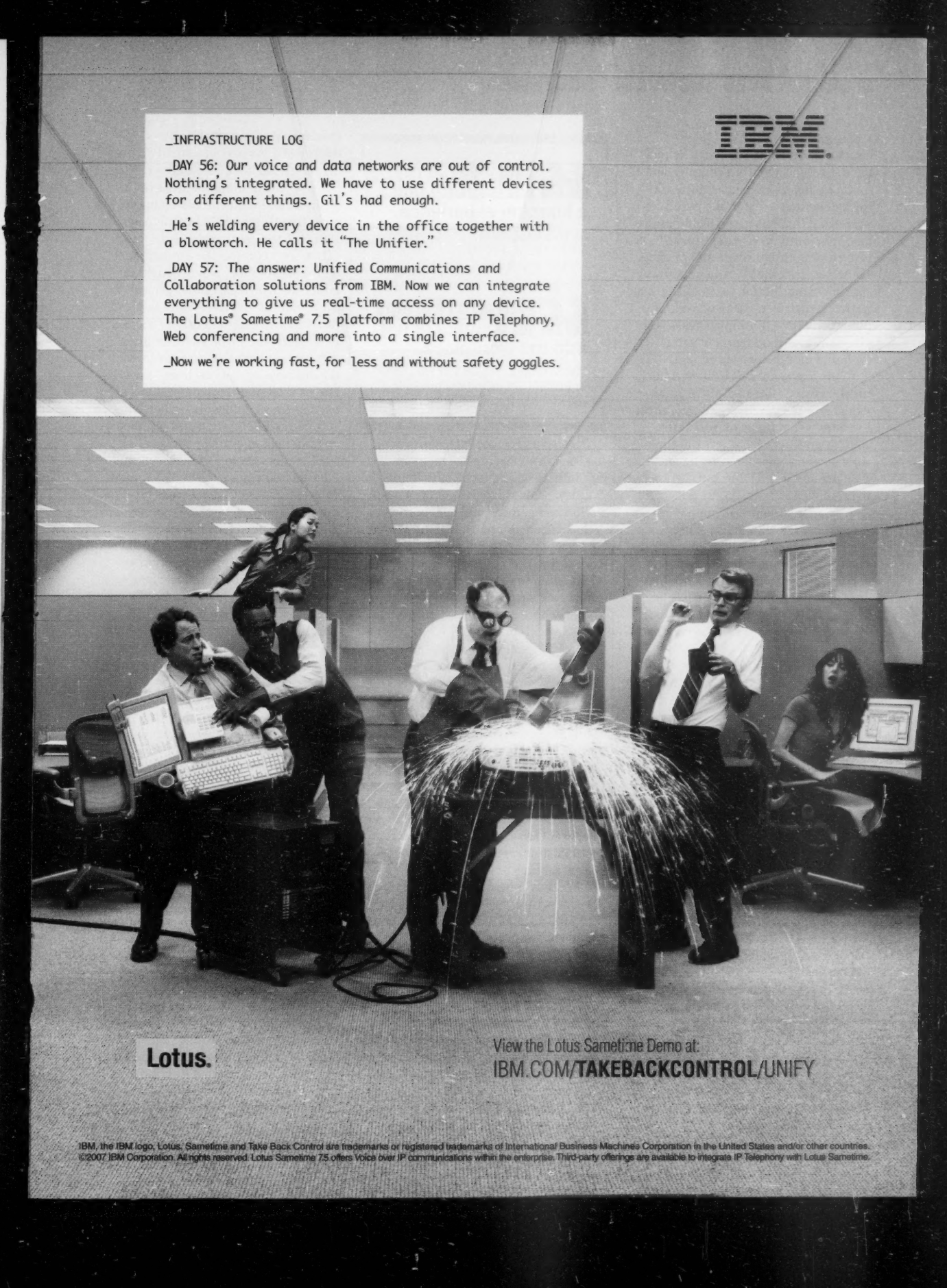
_INFRASTRUCTURE LOG
_DAY 56: Our voice and data networks are out of control. Nothing's integrated. We have to use different devices for different things. Gil's had enough.
_He's welding every device in the office together with a blowtorch. He calls it "The Unifier."
_DAY 57: The answer: Unified Communications and Collaboration solutions from IBM. Now we can integrate everything to give us real-time access on any device. The Lotus® Sametime® 7.5 platform combines IP Telephony, Web conferencing and more into a single interface.
_Now we're working fast, for less and without safety goggles.
IBM.
Lotus.
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©2007 IBM Corporation. All rights reserved. Lotus Sametime 7.5 offers Voice over IP communications within the enterprise. Third-party offerings are available to integrate IP Telephony with Lotus Sametime.

Continued from page 26

courses, says Valencia, "have helped me to become a better programmer."

Apollo has refreshed its network infrastructure twice in the past five years, and that has given Rich Phillips an opportunity to expand his skills. "I love ripping things apart and putting them back together — and hopefully making things better," says Phillips, a network engineer. He also loves ripping softballs — Phillips plays on the company's softball team, which is active nine months out of the year.

IT employees aren't limited to technical training. Through the Apollo Corporate University, they can enroll in courses that focus on soft skills, such as conflict resolution and time management, says Dustin Howard, vice president of IT infrastructure and technology support.

A total of 25 senior IT managers and process development staffers are currently receiving training in the IT management techniques put forth in the Information Technology Infrastructure Library (ITIL). The company's goal is to spread those disciplines throughout its IT department, says Howard.

Apollo's IT organization "is constantly working around innovating" the business, says Mildenhall — the business of education.

HARRAH'S ENTERTAINMENT INC.

IT HEAD COUNT: 700-plus

CIO: Tim Stanley

CURRENT IT PROJECTS: Building a new casino called Margaritaville in Mississippi with Jimmy Buffet. Plus, new property openings in the Bahamas and Spain, each of which requires significant IT planning, development and integration.

CURRENT IT OPENINGS: Project managers, systems programmer/analysts, senior-level IT architects and developers, directors of innovation and e-gaming.

ANTE UP: There are a lot of reasons why Harrah's has landed on *Computerworld*'s Best Places list for the past nine years. It's big on training and leadership development. Its IT staffers use cutting-edge technologies and frequently get the opportunity to work with new tools, since the company has 200-plus IT-business projects in the pipeline at any given time.

> **"Every day at my job is pretty much a learning experience.**
>
> **CARRIE VALENCIA,** SOFTWARE DEVELOPER, APOLLO GROUP INC.

> **"Harrah's IT brings an element of fun into the workplace.**
>
> **TIM STANLEY,** SENIOR VICE PRESIDENT OF INNOVATION AND GAMING AND CIO, HARRAH'S ENTERTAINMENT INC.

It's also a very cool place to work.

"Harrah's IT brings an element of fun into the workplace," says Tim Stanley, senior vice president of innovation and gaming and CIO at the Las Vegas-based company. Harrah's offers its IT workers a number of outlets for recharging their batteries, including visits from an ice cream truck that offers treats free of charge, plus break rooms where employees can listen to music, watch plasma TVs or play Nintendo Wii games.

Those types of perks are a big help for a busy company that needs to keep employees' creative juices flowing. In addition to its new-property development plans, the gaming company has a number of domestic and international projects that involve integrating and converting systems at acquired properties, says Stanley. And this spring in Las Vegas, Harrah's is planning to pilot a new CRM system that will interact with customers while they're at the slot machines or gaming tables.

"We as a company continually look for opportunities to develop our capabilities and use IT as a source of competitive advantage," says Stanley.

CALENCE LLC

IT HEAD COUNT: 12

IT DIRECTOR: Dan Hill

CURRENT IT PROJECTS: Recently rolled out a professional services module for its Microsoft Dynamics AX ERP system; moved into a new data center and overhauled its IT operations over the past 18 months.

CURRENT IT OPENINGS: None. However, an opening for a C#/.Net developer was recently filled.

MANY HATS: As part of a small IT organization, Calence's IT staffers are asked to work within different areas of the business and with various technologies, including ERP and CRM tools, says Dan Hill, the company's IT director.

But don't confuse the arrangement with a job rotation, where someone might work on a particular project for a few months and then be transferred to a different assignment. At Calence, IT staffers "are involved in a million different projects that directly impact the business operations here," says HR Director Jennifer Fernandez. On a typical day, they could work on both the company's ERP system and its employee tracking system, she notes.

IT staffers get to work with cutting-edge technologies such as AJAX and Microsoft's Silverlight, a cross-browser, cross-platform rich-media tool, says Hill.

Given its need for IT workers who can wear many hats, Calence strongly emphasizes training. In addition to offering a range of technical classes, the company also has a competitive scholarship program in which it grants continuing-education awards to about 25 people a year, or roughly half the people who apply, including employees' dependents, says Fernandez.

Mark Dilly, a database administrator who joined Calence earlier this year, is scheduled to take a weeklong database analysis course this month and has already received internal training on ERP security and other disciplines.

Dilly uses words like "exciting" and "dynamic" to describe his seven-month tenure with the company. "I'd compare this to my experience [as data acquisition manager] at Realtor.com in the late 1990s, when we grew from 30 people to about 500 people in one year," says Dilly, who likes to hunt for elk and deer in his off hours. "Here, they already have the 500 people, but they're constantly looking for new [business] opportunities."

It helps that Calence also has a flexible telecommuting policy. "People aren't necessarily bound to the office," says Hill. "We might have to do some whiteboarding sessions on-site, but people can troubleshoot servers while they're parked on the side of the freeway using a laptop over Wi-Fi." ■

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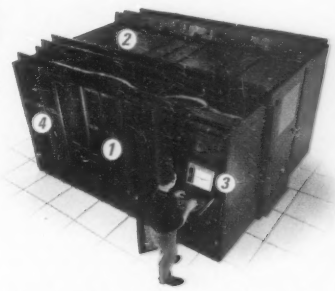

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ACCOUNTS PAYABLE: THE Final Frontier FOR IT

Here's how to pick the right system.

By Linda Albornoz

IF YOUR finance and procurement departments aren't already knocking on your door looking for greater savings and controls than your current accounts-payable system delivers, they soon will be. You can head them off and serve as a strategic partner on a project that will not only affect your team, but also deliver significant value to your organization: the implementation of an electronic invoice payment and presentment system. EIPP connects buyers and suppliers in an online environment and automates the invoicing and payment process.

Many companies have already made substantial investments in ERP and e-procurement systems in order to integrate and automate key business functions, cut costs and enhance strategic decision support. One final frontier ripe for automation that lies downstream from planning and sourcing systems is the accounts payable process, which remains largely paper-based and is labor-intensive and costly.

In fact, according to Aberdeen Group Inc.'s E-Payables Benchmark Report, released earlier this year, companies typically receive 80% of all invoices in paper format and pay 65% of invoices using paper checks. In addition to being inefficient and expensive, these manual processes limit a company's ability to optimize working capital, track supplier compliance with product specifications, monitor spending and establish an audit trail to comply with the Sarbanes-Oxley Act.

For these reasons, EIPP is gaining traction, particularly now that the technology has matured and such systems offer companies a swift return. In addition to lowering costs and increasing efficiencies, EIPP helps companies manage spending by reducing billing errors, improving cash flow, qualifying for supplier early-pay incentives, improving internal controls and obtaining real-time visibility into the procurement process.

In my experience, business initiatives requiring system implementations are most successful when IT gets involved early and offers insight and support throughout the project. IT is in a unique position to help choose a system that will achieve the organization's goals and work with existing systems. Before your company signs on the dotted line, make sure the system you and your colleagues choose delivers on the following key criteria:

1 **The system should work with your existing systems.** This may seem obvious, but EIPP software should add incremental value, not create new challenges. It should integrate directly with all back-office applications, including back-end accounts-receivable and billing systems, and it should leverage processes and data

Electronic invoice payment and presentment systems enable companies to receive invoices electronically from suppliers and process electronic payments on the back end, capturing full invoice details and providing additional controls across both non-purchase-order- and purchase-order-based spending. Here are some of the benefits EIPP delivers:

- Reduces operating expenses related to manual, paper-based invoices.
- Cuts down on exception handling, duplicate payments and overpayments.
- Minimizes check printing and issuing costs by making electronic payments.
- Allows full visibility into supplier invoices and payments.
- Facilitates regulatory compliance with complete audit trails.
- Condenses invoice approval cycle, allowing better cash management.
- Ensures qualification for early-payment discounts.
- Improves accuracy and control by gaining visibility of actual – not estimated – outstanding payments.
- Initiates payment once electronic invoices are submitted, reviewed and approved.
- Allows users to pay suppliers quickly and take better advantage of rebate offers.

from within your financial systems. For example, master supplier data should be shared between your ERP system and the EIPP system. Purchase orders should flow between the systems so they can be "flipped" to create invoices within EIPP. Non-purchase-order invoices should be routed, coded and approved within your EIPP application, adding a layer of control and ensuring that only valid invoices are passed to your ERP system.

2 **The system should be modular and easy to deploy in phases.** One size never fits all, so it's important that your EIPP provider tailor its application — and your implementation timeline — based on your company's immediate needs, business goals and IT initiatives. For example, if you have already invested in scanning technology on the front end of the accounts-payable cycle to get paper (invoices) out of the process, you may want to focus your efforts on increasing electronic payments to further drive paper (checks) out of the back end of the process.

This approach allows you to deliver rapid benefits to your organization before moving on to the next opportunity (like enabling a portion of your supply base to submit electronic invoices directly into the EIPP system). It also helps you allocate resources more effectively. EIPP is typically a hosted application that should not eat up all of your team's time (see No. 3). However, phasing in functionality will ensure minimal disruption of other initiatives and earlier realization of system benefits.

3 **Supplier enablement should be a collaborative effort between you and your EIPP software provider, with the latter doing the heavy lifting and much of the effort automated through the EIPP system.** Once you've endorsed the system, enrollment in EIPP should be a fast, straightforward process that creates neither significant costs for your suppliers nor burdens for your IT organization. It helps if your provider already has an EIPP-enabled supplier network and a dedicated team to enroll new suppliers and provide technical support. In addition, your EIPP provider should be able to accommodate multiple invoice types — among other things, it should support scanning and uploading of paper invoices — so your suppliers don't have to change existing processes and can get on board quickly. For high-volume suppliers, your EIPP application should be able to handle batch uploads. For those you work with infrequently, your software should allow your company to enter an invoice directly into the system.

4 **Integrating EIPP with your purchasing card program should enable straight-through, "touchless" processing and increased data security.** To reap maximum benefits for your organization, you should have the option of seamlessly integrating EIPP functions with purchasing-card settlement, thereby enabling automated back-end reconciliation. Linking the two allows your company to preapprove invoices for payment prior to settlement, which results in straight-through processing.

Thresholds can be specific amounts for each supplier or enterprisewide limits, and invoices can still be reviewed and reconciled after settlement. Further, because EIPP delivers line-item reconciliation and added data security, your company can expand its purchasing card program to capture spending categories that require added controls, like inventoried stock, direct goods and capitalized assets.

Balancing business goals, supplier relationship management and the realities of process and system integration is critical during the EIPP selection process. When IT joins forces with accounts payable, finance and procurement, the result is a system that fits the organization's needs, increases efficiencies, drives down costs and works with existing investments. In today's business environment, accounts-payable automation should be a top priority for all innovative companies wishing to gain more with less. ■

Albornoz *is a senior IT professional responsible for client services and application development at American Express Co.*

If the Application Fits, Wear It

Wearable computers work well for niche needs.
By Lamont Wood

A forearm-mounted, 11-oz. WT4000 Series computer from Motorola runs Windows CE. It's shown here with a ring-mounted bar-code scanner.

A wrist-mounted Zypad computer from Arcom can run either Windows CE or Linux.

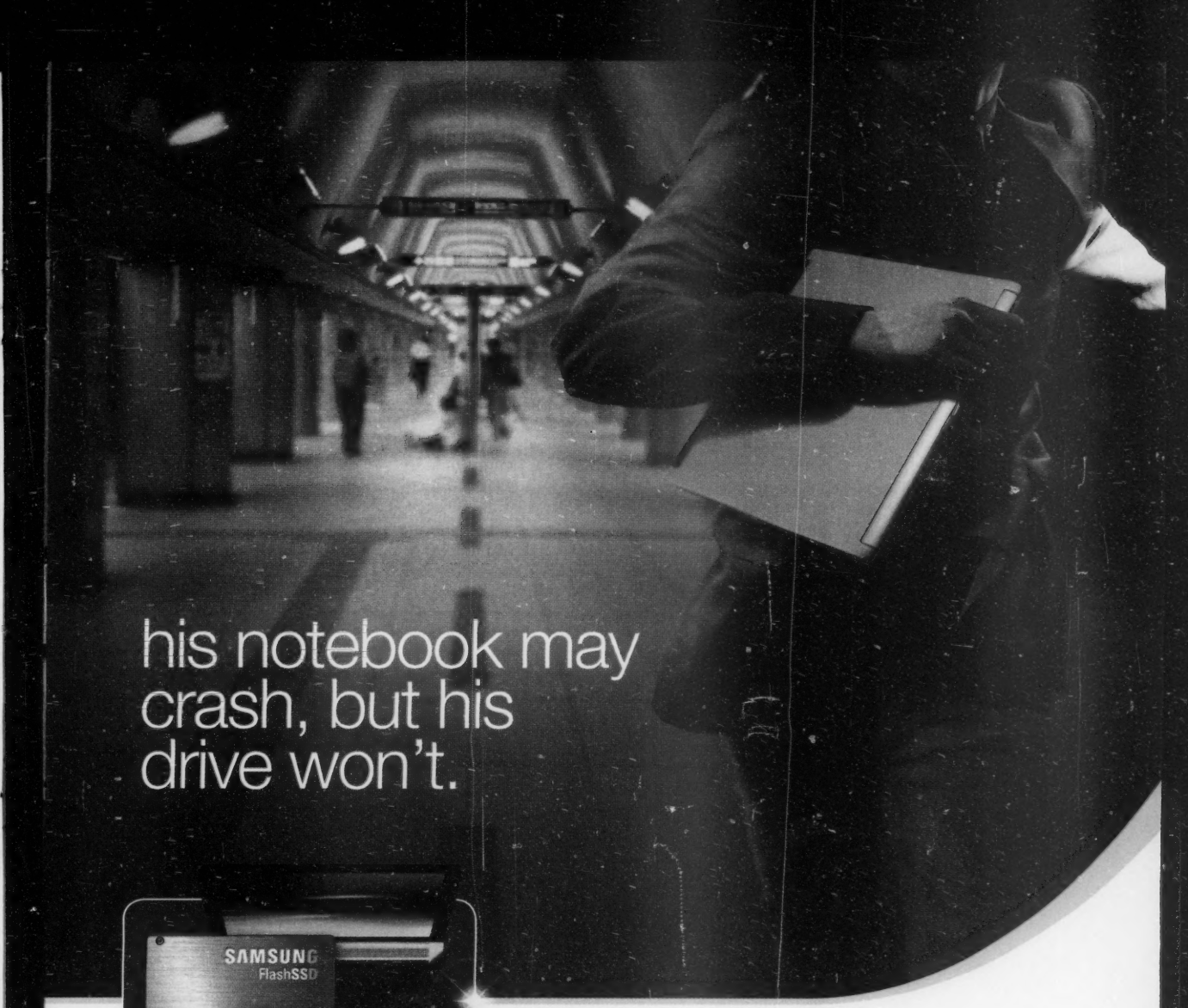
WHEN RANDY MCCONNELL equipped warehouse workers at Smith Drug Co. with wearable computers, production increased by 20%. "And our error rate went down to nothing," says the IT director at the Spartanburg, S.C.-based drug wholesaler.

Relaying instructions from a central server, the wearables from Pittsburgh-based Vocollect Inc. tell workers which bins to go to and how many items to pull, he explains. The waist-mounted computers weigh less than a pound and are curved to fit comfortably. Users wear headsets with microphones to receive and confirm instructions.

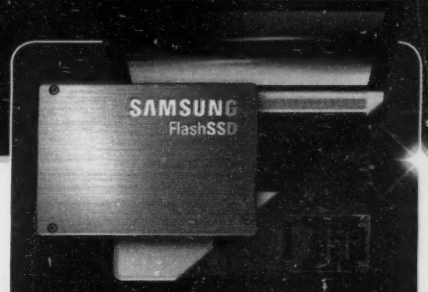
"Previously, they had a clipboard with 25 items per sheet," McConnell recalls. "Now, they don't have to look at the paper. Their hands are free, and all they have to do is listen and think."

Training is minimal. "It takes about 30 minutes to train a voice-recognition template for

Continued on page 34



his notebook may crash, but his drive won't.



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[1]Mean Time between Failure
[2]HP NX9420, XP Pro, Core Duo Processor 2.0Ghz, 512MB RAM, ICH 7, I945 Chipset
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Continued from page 32
one person and no more than 30 minutes to train the person," McConnell says. "Within one hour, they can be really productive."

NO HANDS

The market for wearable computers amounts to just $150 million, but the annual growth rate is 20% to 25%, says David Krebs, an analyst at Venture Development Corp. in Natick, Mass. (The market doesn't include conductive textiles or special-purpose wearable processors such as those used in medicine and sports.)

"In the 1990s, you saw people deploying wearables in order to get a competitive advantage, but now you need them to be competitive at all," says Brian Viscount, a vice president at Motorola Inc., which is a leading vendor in the wearable field, thanks to its acquisition of Symbol Technologies Inc.

"Now, [warehouse employees] don't have to look at the paper. Their hands are free, and all they have to do is listen and think."
RANDY McCONNELL, IT DIRECTOR, SMITH DRUG CO.

Motorola's 11-oz. unit, based on Windows CE, is worn on the forearm and relies on a voice interface. Prices range from $3,000 to $3,500, says Viscount.

Wearables are gaining popularity in "a niche industrial and government market where freeing one's hands enhances the capabilities of the user," Krebs explains. "We have seen strong successes in warehouses and some in the military for situational awareness, with some adoption in health care and maintenance. But the big issue in the field is identifying appropriate applications."

That doesn't seem to be a problem for some vendors. "Our part of the market is doubling every year," says Ross Smith, president of Quantum3D Inc., which makes wearables for the military and police. "A lot of new applications are springing up, just as in any other field where you have an enabling technology, especially around what they call C4ISR [command, control, communications, computer, intelligence, surveillance and reconnaissance]."

San Jose-based Quantum3D's systems are typically used with head-mounted or handheld displays rather than voice interfaces. Input is performed through various means, including buttons, joysticks, touch screens and programmable controllers similar to those used in video games.

But most wearables use speech for both input and output. The voice software is "trained" to recognize a specific user, and the applications generally have vocabularies of fewer than 100 words. Typically, vendors offer several language interfaces, and multiple languages are often used inside the same warehouse. The units can last a full shift on a single battery charge, thanks to power optimization, hot-swappable batteries and the absence of a display screen. The units are ruggedized for the wear and

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Wearing Thin

At least one vendor has found wearables wanting – so much so that it has pulled out of the market despite having originally pioneered the wearable field in the early 1990s.

"The technology is simply not there for truly hands-free wearable use," says Perry Nolen, CEO of Xybernaut Corp. in Chantilly, Va. "We are moving away from the field until such time as the technology does improve, and then we will look at how we want to re-enter it.

"With voice, it is difficult to scroll up and down – anything that involves more than a couple of commands poses problems," he explains. "As for head-mounted displays, outside the military, we have found that when they are used, they are typically in an R&D role rather than a true functional requirement. As for a full display, one with a slim design and an eight-hour battery life is not there."

Five years ago, the firm began offering a handheld mobile device for its customers, who are mostly involved in outdoor maintenance and inspection. It still has stocks of wearable systems but has seen little demand for them, Nolen says.

"We love the wearable market and wish we could stay in it," he says. "But there were not enough proven applications that would let us evolve and grow."

– LAMONT WOOD

tear of nondesktop life.

With wearables, "new employees in a warehouse can be got up to speed in a day, since they are continually getting instructions on what to do, as opposed to being trained for a week by following another picker around," says Scott Yetter, CEO of Voxware Inc., a wearable computer vendor in Lawrenceville, N.J.

Yetter says that users of wearable computers can typically expect a reduction of 30% to 50% in their error rates. And that performance may by itself justify adoption of the system, because shipping the wrong product can be expensive. Productivity can increase 10% to 20%, since the pickers don't have to continually put down and pick up their clipboards, he adds.

And there's another benefit, says Patrick Sweeney, CEO of Odin Technologies, a maker of radio frequency identification systems in Dulles, Va. His workers use wrist-mounted Zypad wearables from Arcom Inc. in Overland Park, Kan., that cost about $2,500 each. "We find that people tend to leave handheld equipment lying around," he says, "but when it is strapped to your wrist, you are not going to lose it." ■

Wood *is a freelance writer in San Antonio.*

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Backing Up on Autoforward

It's a **useful feature** that carries **a lot of risk.** And it's painful to find that out **the hard way.**

Trouble Ticket

ISSUE: Outlook's autoforward feature emerges as a security risk.

ACTION PLAN: Disable it for employees who can't demonstrate a valid business use. And find out who those people are.

THE OTHER day, our CIO wanted to know why an executive vice president had been able to receive an e-mail containing a spreadsheet with sales forecasts. That didn't sound too alarming to me. An executive vice president is a likely person to be given clearance for that sort of data. Then the other shoe dropped.

It turned out that this particular executive resigned two months ago and is now working for a competitor.

We have a couple of problems. The first is that our employee termination process is broken. Ideally, we would have an identity management tool tied into our various enterprise systems. When an employee left the company, all access to our infrastructure and applications would be quickly removed.

Unfortunately, we have neither the budgetary nor the human resources to do that. What we do have is single sign-on and SecurID two-factor authentication for remote access. Single sign-on ensures that when a user is removed from one location, access across the board will be denied to that user. The benefit of SecurID in this regard is that departing employees must turn in their tokens to their managers prior to picking up their final paychecks.

The second problem is that autoforward to the Internet is enabled.

Microsoft Outlook is very flexible. Among its many bells and whistles is the ability to autoforward mail, which is useful if you ever need to read e-mail from some other mail account or if you need someone else to receive a copy of some of your e-mails. This feature has been incorporated into some of our business processes. For example, résumés are autoforwarded to our external hiring agency.

But while it's valid to allow autoforward for such business-related functions, I decided that the risk is too great to allow all employees to configure their e-mail accounts so that they can forward mail outside the company.

■ My CIO accused me (in a nice way) of being paranoid, but that's my job.

NOT SO FAST

Disabling autoforward is a simple check-box operation. But just checking the box and saying, "There, that's all set," could lead to business disruptions. We had to run this like a miniproject so that we could discover, as best as possible, all accounts with autoforward enabled. We did this by sending a global e-mail message and using Proofpoint to detect instances of it being forwarded to outside e-mail addresses.

We mainly use this tool, from Proofpoint Inc., to guard against spam, but it can also be used to conduct keyword searches on e-mail leaving the company. With it, we've been able to detect intellectual property and other confidential information being sent to unauthorized destinations.

Proofpoint detected some 150 instances of the global message being autoforwarded to the Internet. That told us who is using autoforward, and we are now talking to them to see whether they have valid business needs for it. If they do, we will create exceptions for them. If they don't, the feature will be disabled for them within the next couple of weeks.

Meanwhile, we are enabling out-of-office messages to the Internet for the first time. We had allowed only internal out-of-office notifications. Our CIO wants the change, and I couldn't sell him on the risks. For example, a criminal can send e-mails to a company and learn who is out of town. A little more effort could give the criminal a home address to burglarize. Out-of-office notifications also verify to spammers that an e-mail address is valid. My CIO accused me (in a nice way) of being paranoid. That's my job, of course.

I expect there will be some fallout from both configuration changes. I'll keep you updated. ■

This week's journal is written by a real security manager, **"Mathias Thurman,"** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

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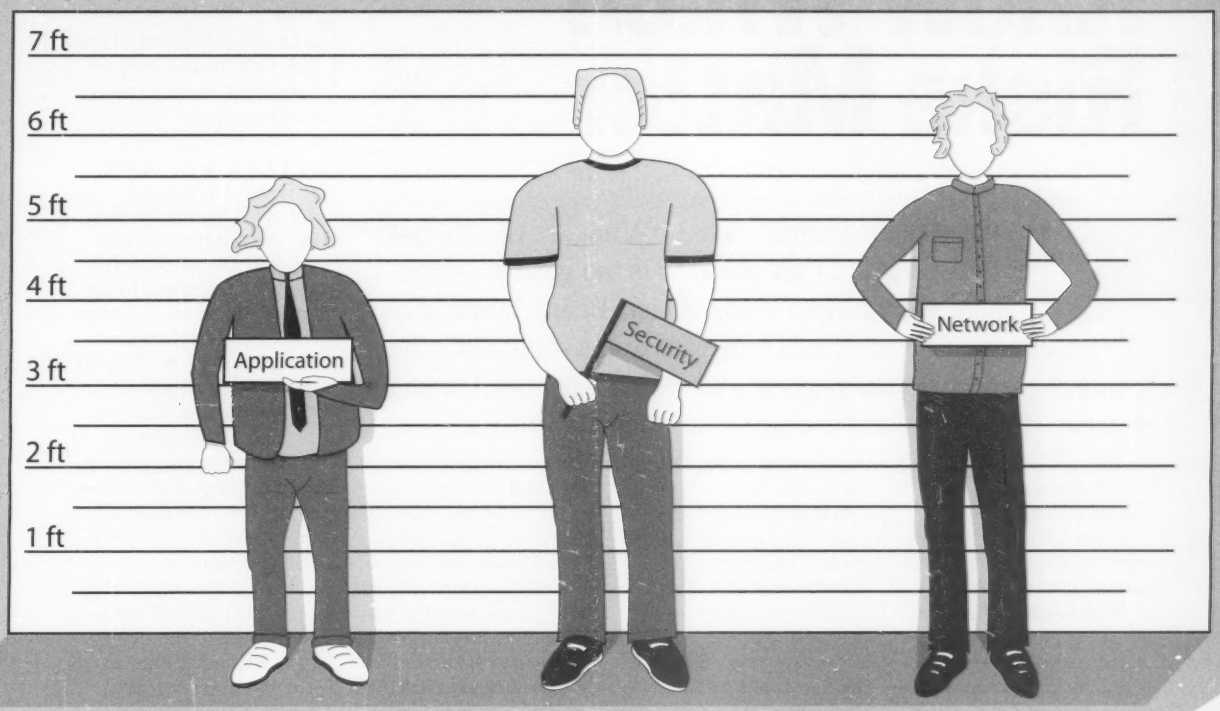
Line up network problems.



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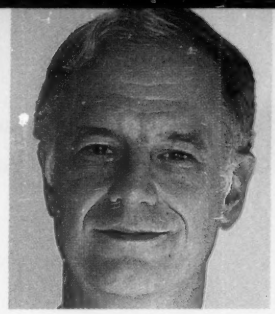
■ OPINION

Bart Perkins

Know Which Risks Matter



CIOs ARE frequently asked, "What are our IT risks?" Unfortunately, this question is too generic, since there are multiple kinds of risk. Before starting any risk assessment, IT needs to understand both the concern prompting the request and which risks need to be assessed. Moreover, everyone needs to understand that nearly all risks that affect an IT organization affect the entire business.

Risks fall into four categories that require different mitigation tools:

Business operations risk. An assessment determines the risks involved in addressing or ignoring a particular competitive threat. Analyzing competitive threats helps the company decide whether to invest the resources necessary to combat the threat.

Determining appropriate responses to competitive threats from nontraditional sources can be particularly difficult. For example, many high-tech corporations initially dismissed Microsoft as just a bunch of Harvard dropouts. They paid dearly for underestimating that risk.

The appropriate mitigation tool is a good business case that evaluates all associated risks. For new business opportunities, a thorough risk assessment may be as important to success as accurate financial projections.

Program risk. For approved or existing programs, management concerns focus on whether the program or project will be delivered on time, within budget and with high quality. Risk is mitigated by effective project management and regular monitoring.

Business interruption risk. This type of risk affects the company's ability to continue operating under difficult circumstances. Scenarios span the gamut from a failed server to a destroyed building. In most cases, a failed server causes minor problems for certain people. In contrast, a destroyed building can bring all company operations to a halt.

■ Before embarking on any risk assessment, clarify which types of risk are of concern to your executive management.

Risk is mitigated by a continuity of operations (COOP) plan that describes how the business will function in the event of various difficulties. Most organizations start with an IT disaster recovery plan (DRP) for the data center. Eventually, the DRP needs to be broadened to focus on restoring business processes and evolve into a full-blown COOP.

Market risk. This category is divided into geopolitical and industry-specific risks. Geopolitical risks include war, terrorism and epidemics, as well as nationalization and import restrictions. These risks vary depending on the country, the complexity of the corporate supply chain and the importance of the industry to political leadership. Industry-specific risks also vary. For example, financial services must contend with credit squeezes and meltdowns of collateralized debt obligations and structured investment vehicles. Consumer product makers may be plagued by "flash mobs" trashing their products via social networks.

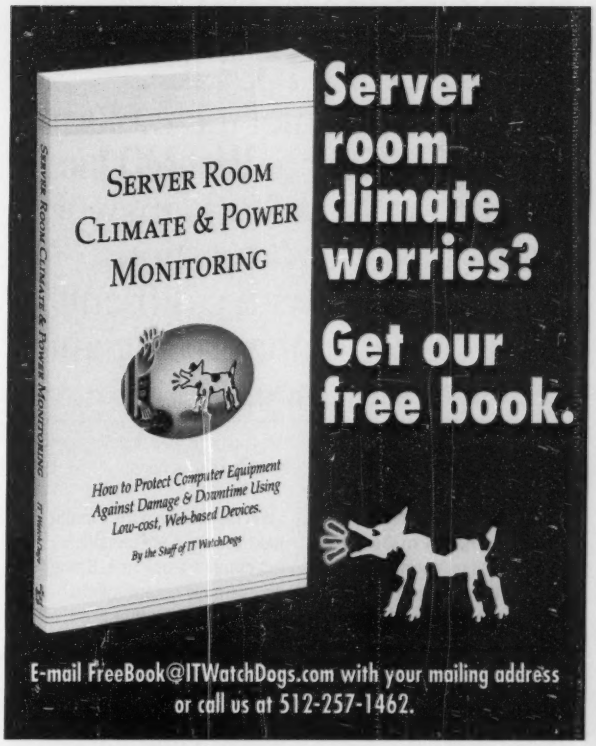
Scenario planning mitigates risk by developing responses to various unlikely events. Most important, it attempts to discover previously unknown risks, because the most dangerous risk is often the one you don't identify.

Outsourcing endeavors — particularly offshore — have increased risks in each category. Risk assessments for these must address specialized concerns like communication and logistical difficulties, supplier viability and intellectual property rights.

Before embarking on any risk assessment, clarify which types of risk are of concern to your executive management. Then select the appropriate mitigation tools to address potential difficulties. Depending on the financial consequences, risk insurance may be warranted.

Thorough risk assessments leverage creative thinking into constructive preparations for addressing potential threats, and they're essential to success. As the old adage goes, "Forewarned is forearmed." ■

Bart Perkins *is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. Contact him at BartPerkins@LeveragePartners.com.*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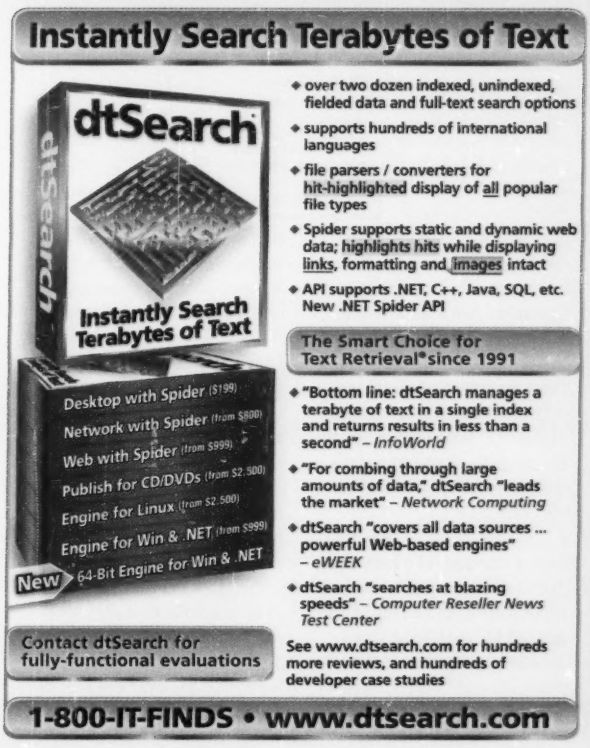
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Career Watch

Workplace Ticker

37%	Employees who say they ignore corporate rules when they have developed a better way to get work done.
57%	Workers who say the best ideas come from "all levels" of the company.
78%	Employees who say their companies encourage contributions from all levels.
59%	Employees who say they enjoy their work "a lot" on a day-to-day basis.

SOURCE: KATZENBACH PARTNERS LLC INFORMAL ORGANIZATION SURVEY, CONDUCTED BY TELEPHONE WITH 510 RESPONDENTS WHO WORK AT U.S. COMPANIES WITH MORE THAN 1,000 EMPLOYEES, JULY 2007

Doing Their Bit

People like to work at companies that have a corporate social responsibility program, according to a national poll of 2,000 U.S. employees. Among the 46% of people who work at organizations with CSR programs, 64% take part. And when afforded the opportunity to take paid time off to volunteer, 70% participate in such activities.

SOURCE: HUDSON INDEX, AUGUST 2007

Hiring Bonuses Are Back

Nearly half of all companies responding to a survey this year currently have a hiring bonus program. Hiring bonus programs are more common at larger companies.

CURRENTLY HAVE A HIRING BONUS PROGRAM:	
All companies	43%
Companies with up to 100 employees	20%
Companies with 101 to 1,000 employees	[illegible]
Companies with more than 1,000 employees	[illegible]

Base: July 2007 Culpepper Pay Trends Survey of 279 companies

SOURCE: CULPEPPER & ASSOCIATES INC. EBULLETIN, AUGUST 2007. COMPLIMENTARY SUBSCRIPTIONS AT: *WWW.CULPEPPER.M/EBULLETIN*

PAGE COMPILED BY JAMIE ECKLE.

■ ASK A PREMIER 100 IT LEADER

William Pence

The chief technology officer at **WebMD Inc.** in New York answers readers' questions about dealing with a difficult boss, career management and quality assurance.

I am in constant conflict with my boss about how best to serve our users. I know I have more technical smarts than she does, and she makes decisions based on short-term cost savings that end up costing us more in the long run. It's frustrating, but I'm not having any luck finding another job elsewhere. If I'm stuck here, I'd like to know how to cope with this situation better. Regardless of whether you stay or go, you need to examine your approach to your boss and perhaps consider discussing your situation with your HR person for suggestions as to how to better interact with your boss. Claiming to have more technical smarts is not productive, and you can be pretty sure that you do not necessarily have a complete view of all of the pressures and constraints she faces. Even in cases where your manager is not competent, you are always better off asking yourself how you can help her succeed. You'll stand out as a better employee and will achieve more in your own career in the long run.

I am a manager of a help desk. I have no prospects for a promotion here, and all my skills are not being utilized. Any advice? Consider moving into the quality assurance or development functions within the company. QA may well be a good starting point, depending on your technical degree and background.

I will need to declare a major next year and am considering computer science. Some people have recommended that I go into another area for more job security. What do you think? I would highly recommend pursuing an undergraduate degree in computer science. Given how pervasive computer technology is in our society, I believe there will continue to be great opportunities for people with CS degrees. In addition, if you decide to move in another direction after your undergraduate degree – law or business, for example – the CS degree will make you more marketable in those professions, and the knowledge you gain will be useful in those fields.

I am interested in software development but have received offers in QA. What career path can I expect if I take one of those offers? A job in QA can be a career in its own right, or you can move from QA into development. You may need to beef up your development skills, so you should continue to take courses and learn new programming languages while you work in QA. If you stay in QA, those courses will benefit you. If you move on, the experience in QA will make you a better developer. I think every developer should spend time in QA.

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Software Applications Engineer to work in New Orleans, LA. Experience required. Send resume to SAIC, mcdanielam@saic.com. Must ref job code 100692.

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Software Engineer - Ana, dsgn, dev, implm, cust & maintain appln & sys U/J2EE, Web Services, XML, UML, Oracle, DB2, SQL Server, JDBC, Weblogic, Websphere, Tomcat, OOD, OOA, MVC, & Win NT/2000/XP. MS/Equ (BS+5yrs exp) in CS, CIS, MIS, Eng (any), Math, Bus, Tech, or related W/exp. Salary DOE. Email your resume to: njconsulting@tact.com OR mail to: Helios & Matheson North America, Inc, 77 Brant Ave, Clark, NJ 07066 & refer NDB1010.

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Shark Tank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Where's the Fire?

Pilot fish discovers that the fire alarm in this university data center doesn't actually alert the fire department – and it's during a small crisis, but fortunately not a fire. He notifies the proper people, but was the problem resolved? "Flash forward about three months," says fish. "A high school group was touring the facility, and on the way out, they were told to push the red button on the wall, which keeps the door open without setting off an alarm. One Chinese exchange student confused "push" with "pull." I came back from lunch to four fire trucks, three police cars, the student media center van and one very, very frightened exchange student who was scared to death that she was about to go to jail, regardless of how many of our administrators kept telling her it was an accident. I saw my boss on the way in and said, 'I guess they really *did* fix that alarm, didn't they?' "

Aha!

Boss asks pilot fish to take a user's PC back to the workshop because the PC is overheating and rebooting randomly. "I run a diagnostic test but can't find the problem," says fish. "So I load the PC into my car to take it to the workshop." Halfway there, his cell phone rings. It's the user, who is back from lunch and is complaining that not only hasn't fish fixed the problem she reported, but now the screen is blank and her keyboard doesn't respond. Didn't you notice that the big beige box is missing? fish asks. User: "Oh, is that part of my computer?"

How NOT to Save Money

It's 1991, and this small Danish company uses Unix workstations for its software development. When it's upgrade time, the sysadmin backs up each workstation's data on a single tape drive. "The upgrade went fine, so the sysadmin made ready to reinstall user data," reports a pilot fish on the scene. "This time, he placed the tape drive close to his own workstation. He didn't have an outlet nearby, so he strung two extension cords together. He powered up the tape drive – and when he flicked the power switch, the tape drive went *poof*. Turns out his extension cords were homemade, and in one of them, phase and neutral were exchanged. This is not usually a problem – but when you connect it to another extension cord where neutral and ground are exchanged, all of a sudden, you get 220 volts on the chassis ground. It took four days to get a new tape drive, and the workstation users were more or less reduced to using pencil and paper."

■ *Sharky's ready to kick back by a holiday fire. I'll be back in the Jan. 7 issue, but until then, don't forget to fill my stocking at* sharky@computerworld.com *with your true tale of IT life. You'll get a warm, cozy Shark shirt if I use it.*

COMPUTERWORLD.COM

TIRED OF BUNGLING BOSSES and clueless co-workers? Swim on over to Shark Bait and share your tales of woe. **sharkbait.computerworld.com.**

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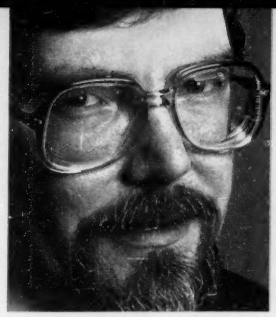
■ FRANKLY SPEAKING

Frank Hayes

'Tis the Season



"THAT'S THE last Wii," said Santa, dropping back into his chair at the North Pole, just a week before the big night. You'd think kids wouldn't want last year's toy, but they're certainly asking for it, he mused. Good thing Lloyd has been buying them up all year, or we wouldn't have any.

But where *was* the head elf? "Lloyd, I still need some help with the problem children," Santa called out.

"You mean the IT bigwigs, chief?" said the tiny voice in his ear. I can't get used to this Bluetooth gadget, Santa thought. "I'm down in the warehouse. Who's first on this year's list? Bill Gates?"

"Steve Jobs," replied Santa. "He's worse than Gates — he owns the biggest piece of Disney, his iPhone is a big success, and now *Fortune* says he's the most powerful businessman in the world. What do you get a guy like that?"

"Hmm," said Lloyd. "With Jobs' famous reality-distortion field, how do we know any of that is true?"

"You're not helping," said Santa.

"OK, hold that thought," the head elf said. "Gates is easy — here's a sweatshirt that says 'I'm retired. Do it yourself!' Is Steve Ballmer on the list?"

"Yes," said Santa. "He has a reality-distortion field too, but he only uses it on himself — he thinks his employees are happy, Google is a fad, and Linux is full of stolen Windows source code."

"Maybe reading glasses would help," said Lloyd. "I'll throw in the strongest ones we've got. Speaking of Google, since Eric and Larry and Sergei are in the cell phone business now, let's give them all ring tones with the tune 'You've Got to Change Your Evil Ways.' "

"Sure," said Santa. "And what can you find for Larry Ellison, Michael Dell and Mark Hurd?"

"What Larry really wants is BEA Systems," the head elf said. "Michael Dell wants a parachute big enough to pull his company out of free fall, and Mark Hurd wants a few thousand more pink slips. Gee, we're fresh out of all those things."

■ Even Apple unlocked the iPhone when that was the only way to sell it in France.

"Give Dell a remote-control helicopter, and send the other two gift cards for T.J. Maxx," grumbled Santa. "Those guys can afford to have their identities stolen.

"And find some lumps of coal for the TJX executives, and for those Hewlett-Packard spies who got community service instead of jail time, and for the bozos at The SCO Group with the bogus Linux lawsuit who ended up going bankrupt . . . "

"Hey, take it easy, chief!" said the voice in his ear. "Not everybody's naughty — sometimes they just need encouragement to be nice. Nicholas Negroponte's One Laptop Per Child group finally got its little green XO laptop into production, and now Intel and Asus are falling all over themselves to make affordable laptops for kids too.

"And it took a year of complaints, but Microsoft finally got rid of the kill switch that was making Vista shut down every time some users looked at it sideways. Even Apple unlocked the iPhone when the law said that was the only way it could be sold in France."

"Such good kids," Santa said with a rueful chuckle. "Which reminds me, we still have Steve Jobs." His earpiece was silent. "Lloyd?"

"I've got it!" the head elf said finally. "We'll give him two hunks of white plastic pipe and tell him they're a Wii 2.0."

"Simple gifts *are* best," said Santa, "but wouldn't he suspect they're not really solar-powered wireless controllers?"

"Remember his reality-distortion field," said Lloyd. "It makes anything look insanely great."

"Ho, ho, ho!" laughed Santa merrily. "If that's true, he may never know the difference!" ■

Frank Hayes *is* Computerworld's *senior news columnist. Contact him at frank_hayes@computerworld.com.*

For all stories go to www.microsoft.com/reliable

Microsoft

The Highly Reliable Times

VOLUME 1 – ISSUE 5

Windows Server 2003

SWISS SEES RELIABILITY SOAR WITH WINDOWS SERVER, CHECKS RED HAT AT GATE

Tom Nagy for The Highly Reliable Times

THE SWISS INTERNATIONAL AIR LINES hub, located in Zurich, Switzerland.

"Windows Server has given us the reliability to grow our online services and differentiate ourselves from the competition. With Linux, we didn't get the reliability or flexibility we needed."

– Frank Meyer, CIO, SWISS

Global Airline's Migration Yields 99.95% Reliability

By MICHAEL BETTENDORF

ZURICH—Swiss International Air Lines (SWISS), Switzerland's national airline, serves 70 destinations around the world with 6,500 employees in 105 branch offices. Today, 14% of SWISS's total ticket sales are processed through its online flight booking system at Swiss.com, with volume increasing by 30% per year. 24x7 operations are critical for this site because of its importance to the airline's business, but the original Red Hat Linux–based booking system was not meeting SWISS's requirements. So the airline began its search for a more reliable platform.

Reliability also drives market perception in the airline industry, according to SWISS CIO Frank Meyer. "In our business, having a plane in the maintenance hangar is not good for our image. It is the same for our online service—people expect it to be up and running," says Meyer.

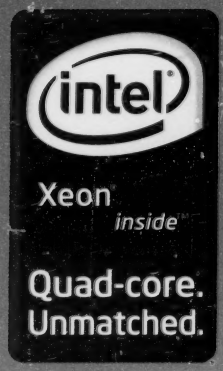
After an intensive evaluation, Meyer and his team chose Windows Server® 2003 and .NET. Since migrating the online booking system to Windows Server, SWISS has seen reliability rise to 99.95%. In addition, while the previous Red Hat Linux–based system could only handle 250 concurrent users, the new system can now handle significantly more traffic than that. Meyer is confident about the effect of these changes: "Moving uptime to 99.95% while increasing performance to handle a greater number of users enables our team to easily handle the 30% growth we are seeing in our online sales."

For the full SWISS story, plus other case studies and independent research findings on the reliability of Windows Server versus Linux, visit microsoft.com/reliable

STUDY: Side effects of reliability can include smiling, calmness

A study released today shows significant mood improvement in IT executives such as Frank Meyer (left) when they experience Windows Server reliability.

– Continued on Page B3



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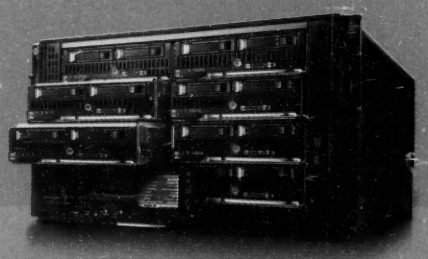

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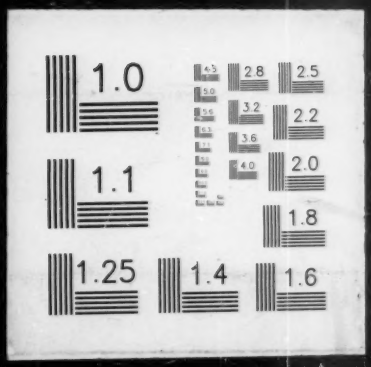
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